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ABSTRACT

A case study approach was used to examine various models of technical and further education (TAFE) accredited training, with particular focus on comparative costs and student satisfaction. Literature on costing and satisfaction was reviewed. Case studies were drawn from the retail, hospitality, and automotive industries. Two comparable courses were identified from each industry area, one of them workplace-based and the other TAFE institute-based. A sample of students/trainees from each organization was surveyed by questionnaire to provide information on satisfaction levels with the various delivery modes and expenditure on training; 3-4 from each course were interviewed. Cost findings showed delivery in the workplace can allow for reduced cost of formal, structured tuition; providing workplace trainees with support from a coach or mentor incurs considerable costs; arranging workplace training for large groups may not be as easy as for small groups; and cost to companies of providing structured on-the-job training can be offset by trainees' unpaid work and the opportunity to assess trainees for possible employment. Findings indicated no evidence of less satisfaction with cheaper courses and very little difference in student/trainee satisfaction levels between industries or between TAFE and workplace-based delivery modes. TAFE students were less satisfied with the cost of their training than were workplace-based students. All highly valued practical application of the learning. (The document contains 85 references, 5 figures, 13 tables, and 2 appendices--one showing the interview schedule forms and the other giving the training costs and satisfaction rational questionnaire.) (YLB)

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WORKPLACE AND INSTITUTE ACCREDITED TRAINING

Costs and satisfaction

Helen Symmonds
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WORKPLACE AND INSTITUTE ACCREDITED TRAINING

Costs and satisfaction

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List of acronyms

ABS	Australian Bureau of Statistics
ACER	Australian Council for Educational Research
ACG	Allen Consulting Group
ACSI	American Customer Satisfaction Index
AGPS	Australian Government Publishing Service
ANTA	Australian National Training Authority
AQF	Australian Qualifications Framework
ASCO	Australian Standard Classification of Occupations
AVETMISS	Australian Vocational Education and Training Management Information Statistical Standard
AVTS	Australian Vocational Training System
CBD	central business district
ESOMAR	European Society for Opinion and Marketing Research
GDP	gross domestic product
IAME	Institute of Automotive and Mechanical Engineers
NCVER	National Centre for Vocational Education Research
OBC	Oregon Business Council
OTFE	Office of Training and Further Education
R&D	research and development
RACV	Royal Automobile Club of Victoria
RMIT	Royal Melbourne Institute of Technology
RPL	recognition of prior learning
TAFE	technical and further education
TCF	textile, clothing and footwear
TRAC	Training in Retail and Commerce
VCE	Victorian Certificate of Education
VET	vocational education and training
VTAC	Victorian Tertiary Admissions Centre
WALMRC	Western Australian Labour Market Research Centre
WOB	Windscreens O'Brien

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- Mr Bruce Mackenzie (chair), Holmesglen Institute of TAFE
- Ms Jozefa Sobski, NSW Department of Education and Training
- Prof Rod McDonald, University of Technology, Sydney
- Mr Ian Gribble, Office of Training and Further Education
- Mr John Braddy, Automotive Training Australia
- Ms Rosalie Karim, Tourism Training Australia
- Ms Debbie May, NSW Retail and Wholesale Industry Training Council
- Mr Brian MacShane, Esprit Australia Pty Ltd
- Ms Karon Hepner, Royal Automobile Club of Victoria
- Ms Vivien Carroll, Box Hill Institute of TAFE
- Ms Ruth Robinson, Torrens Valley Institute of TAFE
- Mr Frank Burgess, Institute of Automotive Mechanical Engineers
- Mr Paul Nosko, Barton Institute of TAFE

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- Esprit (Australia) Pty Ltd
- Holmesglen Institute of TAFE (Vic.)/Royal Automobile Club of Victoria
- Windscreens O'Brien
- Box Hill Institute of TAFE (Vic.)
- Torrens Valley Institute of TAFE (SA)
- Barton Institute of TAFE (Vic.)

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Executive summary

The main purpose of this study is to provide a comparative analysis of the costs of delivery of comparable accredited courses delivered in educational institutions as opposed to those delivered in the workplace. A secondary purpose is to provide a comparative measure of student satisfaction related to each delivery mode.

Background

The recent and ongoing reforms to the vocational education and training sector in Australia are aimed at increasing relevance and cost-effectiveness of industry training. The underlying assumption is that accessible, quality training will improve the competitiveness of Australian industry. The growing interest in workplace-based training is largely a result of this economic imperative. However, there is currently little information available concerning the cost of workplace-based training in Australia or its outcomes in terms of student satisfaction.

Methodology

A case study approach was used to examine various models of technical and further education (TAFE) accredited training with particular emphasis on comparative costs and student satisfaction. Case studies were drawn from the retail, hospitality and automotive industries.

A sample of students/trainees from each participating organisation was surveyed by questionnaire to provide information on satisfaction levels with the various delivery modes and expenditure on training. A small sample (3–4 from each course) was selected for interview. Questionnaire responses were used to inform the interview schedule and interviews were conducted to follow-up and illuminate issues identified by the questionnaire data. Student satisfaction was one criterion used to judge the outcomes of the training.

Results

Costing

While the findings are not definitive, they provide some insight into the components of costs and how they can vary under alternative forms of delivery. The following observations were made.

- Delivery in the workplace can allow for reduced cost of formal, structured tuition. However, if trainees in the workplace are provided with support from a coach or mentor, considerable costs are incurred.
- It may not be easy to arrange workplace training for large groups in the same way as that delivered to small groups.
- The cost to companies of providing structured on-the-job training can be offset by the unpaid work of trainees and the opportunity to assess trainees during the training period for possible employment.
- Employers tend to believe that training costs are justified by increased productivity; that is, that the benefits outweigh the costs.
- There was considerable variation in government contribution to training in the cases examined. The justification for this variation is a matter for further investigation.

Satisfaction

Generally, there was a high level of satisfaction with courses being undertaken.

- There was no evidence that there was less satisfaction with cheaper courses.
- There was very little difference in student/trainee satisfaction levels between industries or between TAFE and workplace-based delivery modes.
- TAFE students were, on average, less satisfied with the cost (to them) of their training than were workplace-based students. Given that they pay fees and may have other associated costs, such a difference is not surprising.
- The lowest level of satisfaction for both TAFE and workplace-based groups related to the time (scheduling) of classes.
- The highest level of satisfaction for the workplace-based trainees related to the trainers' knowledge, and for TAFE students, to the usefulness of the program in improving their job prospects.
- Practical application of the learning was highly valued by all students/trainees.

Introduction

In the current context of reform to the vocational education and training sector, the cost of training, student/customer satisfaction and completion rates are of particular relevance as governments look to encourage more economical use of the training dollar. The National Training Framework focusses on training packages, demand-driven products and services determined through enterprise–provider relationships, and the use of industry standards as a benchmark for assessment on and off the job. It is intended to provide an industry-relevant regulatory environment for cost-effective delivery of vocational education and training.

A fundamental aspect of the new arrangements is the emphasis on 'user choice', which underpins funding for new apprenticeships and traineeships. Although funds continue to flow directly to providers, this is now on the basis of demand for delivery negotiated between the provider and employer.

Apprenticeship and traineeship programs will develop entry-level competencies and qualifications through combinations of productive work and structured training. These are subject to registered training agreements between the employer, the apprentice or trainee and the provider.

The main focus of this study is on the cost of accredited training delivered in a variety of settings. Delivery of such training involves both a formal (clear student–leader relationship) and informal (learning from supervisors and fellow workers on the job) component.

Terms and definitions

The terms 'learning', 'education' and 'training' are often used loosely and interchangeably.

'Training' and 'education' are frequently addressed as different processes and functions, and it is common, as in the term 'the vocational education and training sector', to lump them together to cover all eventualities. The value of the ongoing debate concerning a dichotomy between education and training is questionable. As Seddon (1994) observes:

> *What is at stake in the current education debate is not . . . the question of education* versus *training. The divide between educators and trainers is a consequence of an unrealistic and anachronistic hang-over from liberal meritocracy which only obscures how much they have in common.* (p.79)

Boshier (1983) suggests that 'the term *learning* should be used to describe the change in an individual's disposition or capabilities which could be observed in the form of a permanent behavioural change. The term *education* should be

reserved to describe the process of managing external conditions which would facilitate the internal change' (p.61). Formal or structured training therefore, may be considered as a subset of education.

Langworthy, Preston and Wooden (1987) define training as a process by which individuals increase their ability to perform a particular job or task. They argue that training includes both formal (structured) training delivered on and off the job, involving a clear student–leader relationship, and informal (unstructured) training where workers learn from their supervisors and fellow workers while actively producing output which can be sold.

While it is becoming more common to attribute learning from any experience anywhere to 'informal training', learning is not necessarily a function of, or dependent on, training or education, whether formal or informal. The purpose of education and training, however, is to promote learning.

Workplace-based training

The recent focus on workplace-based training and learning in Australia, while largely the result of an economic imperative, is consistent with a similar focus internationally. In his review of research on learning in the workplace, Hager (1997) attributes the growing interest in the topic to two main factors: its inclusion in the Australian national training framework, and the impact of change and the resultant move toward globalisation of the world economy (p.1).

However, there is little consensus in the literature regarding what constitutes workplace-based training, except that it is viewed as referring to training of which some proportion is delivered and assessed at the workplace. As Hager (1997) states:

> *. . . the term 'workplace learning' is ambiguous. It can refer to formal on-the-job training as distinct from off-the-job training in, for example, vocational education institutions. However, 'workplace learning' can also refer to the informal learning that occurs as people perform their work.* (p.9)

Referring to the terminology surrounding workplace-based learning, Hager (1997) observes that the notions of 'reflection', 'experience' and 'experience-based learning' are ambiguous, meaning different things to different authors. This he links to the wider issue of complexity and diversity of factors relevant to workplace learning.

Levy (1987) broadly defines work-based learning as a structured and integrated approach linking employees' learning to their work role. She identifies three interrelated components:

- structured learning in the workplace
- appropriate on-the-job training/learning opportunities
- relevant off-the-job learning opportunities

In contrast to Jeffery (1992), the focus is not on the physical location in which learning occurs, but rather its relationship to the learner's role in the workplace. Levy argues that learning can occur both on or off the job, and is

'work based' as long as it effectively meets both organisational and occupational needs. Sweet (1993, 1995) defines 'workplace learning' as a structured work experience which includes both curriculum and assessment and contrasts this to 'classroom-based' or 'school' learning in which the workplace is used merely as a resource, or a place for observing other people carrying out work.

Another perspective is provided by Misko (1996) who defines work-based training as 'training which is provided by an organisation primarily for its own employees using the employer's own staff, or consultants' (p.2). She observes that it may be conducted on-site or at an off-site location.

Focussing on cognitive and sociocultural approaches, Billett (1996) defines workplace learning environments as 'arenas of activities in which socioculturally determined practice occurs with that practice being shaped by the requirements of the particular workplace situation'. He sees 'workplace-based training' as a form of 'situated learning' which occurs when a learner is doing tasks and solving problems in an environment that reflects how the knowledge will be used in 'real life' (1993, 1994). He compares three models of vocational skill acquisition: formal learning (for example, technical and further education [TAFE]); workplace learning; and integration of formal and workplace learning. He suggests that formal pre-employment modes of learning provide substitute experiences which may develop conceptual, procedural and dispositional knowledge which are not readily transferable to vocational practice and argues that access to authentic learning experiences be included within formal learning provisions (Billett 1993).

Hager (1997) concludes his review of research on learning in the workplace by suggesting further investigation, particularly in relation to the relatively unexplored area of informal workplace learning; that is, learning that occurs as people perform their work.

This brief survey of the literature related to workplace-based training is not intended to be exhaustive, but rather to provide some indication of recent research and thinking in the area.

Education/industry partnerships

One consequence of the increased interest in, and implementation of, workplace-based training is the recent proliferation of partnerships between education providers and industry (OTFE 1995; Hayton et al. 1996).

Such partnerships have taken various forms, including co-operation in industry training, co-operation in course design and delivery, and more recently, co-operation in research and development. Advantages of improving links with employment contexts have been argued in terms of the broadening effect on curriculum, improving the nation's economic well-being, and improving industry training in order to enhance international competitiveness (Dawkins 1988). There has also been a growing emphasis on quality management (Forbes 1996) and on the need to establish appropriate articulation arrangements between industry-based training and education.

The vast majority of vocational education and training in Australia is delivered by TAFE institutes. Given the current emphasis on 'user choice' and the need for education providers to respond more effectively to industry training requirements, it should be noted that while industry is an immediate beneficiary of TAFE training and therefore a legitimate partner in the vocational education and training system, it is not the main purchaser of accredited training; rather, it is individuals who undertake TAFE programs of their own volition.

Overview of methodology

A case study approach was used to examine various models of TAFE accredited training with particular focus on comparative costs and student satisfaction. Case studies were drawn from the retail, hospitality and automotive industries. Two comparable courses were identified from each industry area: one workplace-based and the other TAFE institute-based. Accredited workplace-based training courses may be considered in three categories:

- training conducted in the employees' workplace
- training conducted in a workplace other than the employees' workplace
- training conducted in settings other than educational institutions, such as industry skills centres or company training centres (rather than schools, TAFE and universities)

For the purposes of this study, a course is considered 'workplace-based' if the majority of its nominal hours/units are delivered and assessed at a workplace. Similarly, a course is considered 'institution-based' if the majority of its nominal hours/units are delivered and assessed at an educational institution.

The six case studies focussed on courses delivered by the following organisations.

- Retail
  - Esprit (Australia) Pty Ltd
  - Torrens Valley Institute of TAFE (SA)
- Hospitality
  - Royal Automobile Club of Victoria/Holmesglen Institute of TAFE (Vic.)
  - Box Hill Institute of TAFE, (Vic.)
- Automotive
  - Windscreens O'Brien
  - Barton Institute of TAFE (Vic.)

All six case studies involved co-operation between industry and education—albeit in different forms and with different emphases.

As the study commenced, the difficulty of identifying courses which were directly comparable in terms of content, level and delivery mode (workplace and institute based) became apparent. In the hospitality case studies, the courses examined and their delivery mode were directly comparable. In the retail case studies, the delivery mode was directly comparable, but the

courses, though similar, were not the same. The automotive case studies focussed on the same course, but the delivery mode did not clearly illustrate the distinction between workplace- and institute-based delivery. This is a major limitation of the study.

A detailed description of the specific methodology relevant to the costing and satisfaction areas of the study may be found in the following sections.

This section is divided into two parts—costing and satisfaction—which are discussed below.

Costing

Introduction

This project provides an analysis of the costs and benefits of entry-level vocational education and training (VET) programs delivered in institutional settings and in the workplace. It does not tackle the whole task, but is limited to a study of the costs of training and of student satisfaction. In looking at costs, the focus is the cost per student or trainee engaged in the training, as distinct from cost per course completion or per module.

The entry-level training programs considered in this study all require some workplace experience. The extent and nature of that experience varies across courses and with the mode of delivery. A classification framework for delivery patterns could include:

- off-the-job group class (the main mode for the Certificate IV in Hospitality at Box Hill)
- workplace-delivered training (the mode for the Holmesglen TAFE Certificate IV in Hospitality delivered at the RACV Club and the autoglazier certificates delivered by Barton TAFE)
- workplace-managed/mentored learning (the main mode for Esprit and Windscreens O'Brien)
- block release
- distance delivery
- self-paced learning (in most settings but especially the workplace-based settings)
- recognition of prior learning (RPL) (used to an extent in most programs)

There is considerable variation in the cases considered in the means of delivery of modules within the various settings. For example, in the case studies of the Autoglazier Certificates I–IV and the Esprit Certificates II and III in Retail (Sales and Service) learning is undertaken very largely in the workplace, with mentoring and assessment undertaken by the supervisor or manager. In the hospitality course delivered by Holmesglen TAFE, about half the program is based on workplace experience, whereas Box Hill TAFE delivers its program largely on-campus with workplace experience arranged in its own restaurant.

This section of the report sets out our approach to costing different forms of delivery. It:

- provides a brief overview of Australian cost studies
- outlines the nature of cost analysis in this study
- indicates the scope and distribution of the costs to be considered
- specifies the unit of analysis
- outlines the method of collection and organisation of resource and cost data

Australian cost studies

The literature on cost studies in VET was reviewed in Burke et al. (1994). They found that there had been very little work undertaken on costs at a program level. In general, where costings are reported there is only a brief outline of the methods used.

Hayton (1988) examined the capital costs associated with training in the printing industry. He documented average equipment costs per student and identified the potential for significant economies of scale in equipment provision. The Victorian State Training Board in 1991 undertook a study that compared 'live work' with classroom activities in carpentry and joinery. Live work was found to be more expensive but considered to be more effective. Suggestions were also made about ways of reducing the costs of live work.

The Dusseldorp Skills Forum (1995) prepared a brief report on the Training in Retail and Commerce (TRAC) program and other secondary school VET programs. The report mainly reports the results rather than the details of the study. It made a number of findings, including that TRAC programs tended to incur higher costs because of the supervision and co-ordination involved and greater liaison with employers. These costs could be offset by larger class sizes when the courses involved a significant practical component, and there were savings associated with consumables and equipment where delivery occurred in the workplace. Replacement of TRAC co-ordinators could be lower than that for non-TRAC teachers because of reduced face-to-face teaching in TRAC. In general, TRAC courses were more expensive than non-TRAC courses, but employers tended to bear a considerable part of the costs.

In the provision of training within a TAFE institute, the cost of assessment is usually integrated with other teaching costs. With training delivered in the workplace, assessment may represent a large part of the cost. This aspect of workplace delivery has been studied by McDonald (1996).

Dockery et al. (1997), in an important study, provided estimates of the costs borne by employers in the provision of apprenticeship training. The main elements of the costs to employers were:

- the supervision of their training, partly offset by government subsidy
- the gap between the output of apprentices and their labour costs

Dockery et al. did not address the cost of provision of the *off-the-job* component and the provision of assessable modules.

In contrast to Dockery et al., our study does address the costs of provision of off-the-job-training. We also address their first point: the cost of supervision of trainees. We do not consider the second point directly: the output of the trainees and their labour costs. In any case, this is not applicable for those in full-time training. Hence, while our study yielded some impressions about the output of the trainees, we do not report on the second cost element considered by Dockery et al.

Cost analysis in this study

Cost analysis of training can be understood as part of the economic analysis of training (Tsang 1995). Costs of training refer to the value of the inputs used in the process of training with a view to obtaining outputs of knowledge, skills, attitudes and values.

Various forms of cost studies can be undertaken. Some may concentrate entirely on the costs and ignore the process and the outputs. For example, in budgetary forecasts, an estimate of the cost per student and the likely change in the number of students are used to estimate required expenditure.

Other cost studies focus on how costs vary with changes in the process or organisation, with only a partial examination of outputs. Included in this are studies of cost variation with changes in the size of an institution (for example, McKenzie 1995; Throsby 1986).

Some studies try to relate the cost of education and training to measures of outputs (Hanushek 1995). The form of these studies varies considerably and includes cost-effectiveness studies where comparisons are made among alternative programs of inputs measured in money terms and outputs in terms of the course objectives, such as student gains in literacy (Levin 1983). A program is cost-effective if it provides a higher level of output in the defined objectives than an alternative program for the same cost, or it is cost-effective if it provides the same level of effectiveness as an alternative program but at a lower cost.

Unfortunately, it is rare that comparisons of programs can be made in which the costs are equal or the outputs are equal. The usual finding is that programs differ in both costs and outputs. To be useful therefore, such studies need to go beyond the measurement of inputs and outputs. They should also record the nature of the process. To choose between them will require further information on the nature of the process which gave rise to the costs and the outputs.

This study is framed to help inform choice of alternative modes of delivery. It is mainly focussed on costs but it provides one measure of output--a measure of student satisfaction. It also provides some information on the process by which the training was delivered, enabling further study of the factors which affect costs and outputs. The study involves six micro case studies. The main estimates, as discussed below, will give an average cost per student or trainee.

Scope and distribution of the costs

Costs of training may be borne by the:

- employer
- governments, and/or the
- trainee

The focus of the case studies is on the training costs, and their distribution across governments, employer and trainee. The study concentrates on recurrent costs but some information on capital costs and development costs in earlier years will be presented. Information was collected on training costs paid by students but no information was collected on earnings foregone.

Unit of analysis

It is necessary to define the unit of analysis. There are several possibilities:

- per student/trainee enrolled in a course
- per student/trainee completing a course
- per student/trainee per contact hour in a module of a course

Since this study is concerned with a comparison in the cost of delivery of a *course* of training, the first two options should be considered. The more ready availability of data on enrolments, rather than completions, has led to concentration on enrolments. It is clearly important, given the high drop-out rate from some programs, that later studies address cost per course completion.

Organising the cost data

It is common (for example OTFE 1996a) for TAFE institutes to classify costs by the extent to which they can be seen to vary by delivery mode of modules and courses, and their particular purposes such as:

- direct delivery, where costs can be attributed to a specific module, for example, costs of teaching staff, related support staff and materials
- delivery support or indirect delivery, for example:
  - course co-ordination
  - course development
  - teacher travel
  - technical, clerical and administration support
  - shared consumables, rental premises, equipment
- administrative services, for example:
  - financial administration
  - leadership and management
  - marketing
- property, plant and equipment services
- student services and other

Within each category the costs can be classified into personnel, materials and equipment, utilities etc. Most attention will be given to the categories, 'direct

delivery' and 'delivery support', since there will be little alternative than to estimate most other costs pro rata.

This framework applies to costing for TAFE institutes. It provides a basis for the current study but it was extended to:

- distinguish categories of cost important in a workplace, for example, supervisor and mentor direct support time for training and paid training time for employees (see NSW DTEC 1997)
- identify costs to employers, government and trainees
- distinguish costs incurred for the development of a program. In the event, it was possible only to provide very rough estimates of development costs

Collecting the data

Cost analysis needs to strike a balance between comprehensiveness and the resources involved in collecting information. It is necessary to identify which costs are likely to be the most important; which ones are of lesser importance; and which ones do not justify the costs of data collection. Attention has to be focussed on those costs that vary with the form of the program. The major cost is that of personnel involved in the direct teaching and in co-ordination, and most attention will be given to these elements.

The main approach adopted for costing is one in which the resources used in programs are identified and valued. Levin (1983) refers to this as the 'ingredients approach' to costing educational programs. Further analyses can distribute the costs among employers, governments and individuals.

The ingredients' approach retains data on program resources like trainers' time for as long as possible in the analysis before they become relatively inaccessible due to monetisation and aggregation. The ingredients' approach preserves knowledge of the resources from which the cost aggregates are derived. The identification of the resources or ingredients provides information about the nature of the program, the processes involved, and the types of outcomes that it is trying to achieve. As discussed earlier, such information helps to provide an explanation of the factors giving rise to the differences in costs.

Data on the resources involved in the program were obtained in a variety of ways. First, information on the structure and delivery of the program was obtained from interviews with program managers and from written information on the programs. This enabled the identification of the main resources used in the program. From the TAFE institutes, some records on personnel including teachers, trainers, supervisors and students/trainees were available. Some details were obtained of records of financial outlays and salary rates. The major sources of data, especially for the workplace-based programs, were the surveys/interviews with trainers, managers, supervisors, teachers and students/trainees. The interview schedules for collecting the cost data are set out in appendix 1. Information on student costs was also collected in the training cost and satisfaction survey (see appendix 2).

Satisfaction

Introduction

Given the growing market orientation of policy development in the VET sector, and the place of customer satisfaction measurement within it, this literature review seeks to serve two purposes, the first being to review the literature on student and customer satisfaction from both an educational and a market perspective. This should provide readers with an understanding of the different influences on the development of satisfaction constructs within education and training, and in the wider commercial area of product and service provision. The second purpose is to present a schema on student satisfaction which draws from education, market research and customer satisfaction paradigms. This schema is used to partially guide the construction of a customer satisfaction instrument for this pilot survey. It might also assist other VET researchers and practitioners to further develop constructs of student satisfaction in a market or choice environment.

This review proceeds by examining:

- the establishment of a training market in Australia
- development of student satisfaction concepts
- recent development in the use of market-oriented student satisfaction measures

Discussion then moves to:

- the integration of customer satisfaction concepts into education
- the formation of a customer satisfaction model
- derivation of a student satisfaction instrument for this study

The training market in Australia

The concept of the marketplace for VET gained prominence during the 1990s because of ongoing policy initiatives by successive federal and State governments to create a competitive and more efficient market for skills formation training. The federal minister responsible for vocational education and training identified the concept of 'user choice' as a key component in establishing this more responsive and competitive training market.

> *User choice is a new training model that aims to increase the responsiveness of the system to the needs of users by encouraging a direct and market responsive relationship between individual providers and clients.* (Kemp 1996, p.3)

By referring to the needs of users (clients) and enhanced quality, the minister draws attention to the link between markets and customer satisfaction which forms a significant part of the research described in this review.

The 1994 report of the Allen Consulting Group (ACG) to the Australian National Training Authority (ANTA) argues that in the past, Australian training markets tended to be supply-driven. The report suggests, as a means of re-orienting the training system to a demand-driven approach, the concept of 'user buys'.

By adopting this approach, training providers would become responsive to the needs of training consumers. Consumers of off-the-job training who are not satisfied would be encouraged to take their allocated subsidies to another off-the-job training provider.

This proposal was therefore '. . . developing a training market centred around direct client relationships between training providers on the one hand and enterprises and individuals on the other' (Allen Consulting Group 1994, p.iii) and comes close to identifying client satisfaction as a key determinant of market share in a competitive training system.

Anderson (1996) presents a critical position about the lack of empirical evidence and complex terminology which are used to support what he sees as an economic rationalist approach to shaping the ongoing debate on the formation of a training market. Other areas of Anderson's review reflect on issues of defining the client (industry, the individual, access and equity groups), the role of information provision in the exercise of course or institution choice and the lack of quality measures on the inputs, outputs and experiences of the VET sector.

Selby Smith et al. (1996) in reviewing the user choice policy restate the objectives as an intent to:

> *. . . increase the responsiveness of the vocational education and training system to the needs of its users/clients through the encouragement of a direct and market-responsive relationship between individual providers and users/clients, particularly enterprises and their employees.* (Selby Smith et al. 1996, p.3)

They note that the efforts to open up a training market:

> *. . . have concentrated on the supply side, directed towards making the market more contestable and less monopolistic* (Selby Smith et al. 1996, p.3)

and then agree with the Allen Consulting Group that the weakness of this market formation activity from a demand-side perspective is that there are strong overtones of centralism and aggregation within the marketplace. Selby Smith et al. also ask the question of who is the user in the VET system and, like Anderson, note that there are multiple users (clients) including the enterprise as employer, the student as employee, individuals in access and equity groups, communities and possibly governments. As a comment on policy formation they then conclude that

> *There is a lack of common understanding of the objectives and the essential elements which define the user choice concept. These matters need to be clarified and agreed among all parties, and communicated publicly.*
> (Selby Smith et al. 1996, p.5)

The notion of multiple clients leads to the consideration of competing or multiple needs, and raises an allocation question of how enterprises make decisions about the mix of courses and delivery options to meet them. The market research literature argues that the selection of the mix of enterprise resources to meet client needs requires amongst other things an understanding of the make-up of customer satisfaction, its determinants and consequential relationships to consumer behaviours. Marketing literature from the education sector also maintains this position.

Without entering the debate as to the preferred make-up of education and training markets within Australia, it is evident that there are tensions about their formation and direction. Much of this tension is associated with factors such as changing roles of governments, changing conditions of access to training for various groups, and the clash of apparent values as education and market paradigms merge. It is therefore not surprising that there are two different histories about satisfaction: one from education and one from the consumer side of economics and market research.

Development of student satisfaction concepts

A major influence on student satisfaction concepts came from that field of educational research investigating the student dropout/withdrawal process. Tinto (1975) proposed a predictive model of student dropout which included the concept of *student fit* with the educational institution. Tinto's fit constructs (social and academic integration) referred to met or unmet expectations of students with the institution. His model also included a cost–benefit element where students evaluated the institutional offering in terms of value, price and performance. Pascarella and Terenzini (1977) and Pantages and Creedon (1978) tested some elements of the Tinto model, with Pascarella reviewing further developments in 1980. These elements of Tinto's model (expectations, value, price and performance) appear in the customer satisfaction constructs from the field of market research considered later in this review. Similarly, the student withdrawal behaviours described by these authors parallel the actions of dissatisfied customers in a service market when they either switch their loyalties to another provider or cease using that particular service.

Studies by Astin (1975, 1976) have suggested that student withdrawal and dropping out has often been institutionally defined and thus have ignored the possibility of the satisfied student who withdraws or drops out before course completion for reasons unrelated to the institution, a common situation in the VET sector as many students enrol in a course for only particular segments or modules of knowledge. While this behaviour has been recognised at a statistical collection level, it nevertheless frustrates the traditional institutional concept of satisfaction by not completing a course. This requirement of course completion for the measurement of student satisfaction is a feature of the VET/TAFE graduate destination surveys (ABS 1995b; NCVER 1997).

While Tinto and his North American colleagues were developing predictive models to link a range of student attributes (including elements of student satisfaction) with college retention, similar concepts and models were being developed in the United Kingdom (Astin 1975, 1976, 1993; Entwistle & Wilson 1977).

The Tinto and Astin studies and their derivatives were significant in that they represented attempts at theory and model-building of the interactions between students and their individual characteristics, their educational institutions and their performance in terms of persistence or dropping out. Wince and Borden (1995) reviewed this history and noted that:

> *The past literature is complex and contradictory in terms of the role of student satisfaction on both academic performance and persistence. However, one important*

conclusion that emerges from this literature is that the existence and magnitude of satisfaction's effects on outcomes like academic performance and persistence may depend upon other differences either across students' background characteristics or within the college or other environments that students occupy.

(Wince & Borden 1995, p.5)

The observation that a client outcome such as withdrawal might depend on factors outside the direct control of the institution leads to a consideration of market segmentation of program offerings based on groupings of student/customer characteristics and the responsiveness of institutions to student characteristics.

Borden (1995) used satisfaction measures to segment a student market for an American mid-western university and concluded that:

> *It is becoming increasingly clear that programs cannot be designed for a typical student when students differ so greatly, nor are resources available to make individualized approaches to program development feasible.* (Borden 1995, p.86)

He then suggested that clustering or market segmentation techniques might provide a means of efficiently designing courses to meet the needs of smaller identifiable clusters of students using satisfaction as a criterion for grouping.

Similarly, but more pessimistically, Miller et al. (1993) concluded that there can be no 'perfect course' because of the diversity of cognitive styles held by students in any one class. This finding has its parallel in the market research literature as identified by Yi (1990) and Oliva, Oliver et al. (1995) and Fornell, Ittner et al. (1996).

The cumulative literature on student dropout is also important because it generated a significant common voice about the need for education and training institutions to become more responsive to student needs. A range of commentators since the 1970s have argued that post-school education and training institutions have not been responsive to the needs of students or other clients. Traditionally, these institutions have been seen as responding to preserve their own perceptions of what is needed, and that this often translates into preserving 'what is', with change occurring only at the margin.

Kotler and Fox describe this non-responsiveness in the following way:

> *A vocational school may think that the student needs a course in welding, when the student really needs a job. That is, a school may get caught up in what it has to offer and miss the consumer's real concern.* (Kotler & Fox 1995, p.9)

The manner and degree of responsiveness of institutions to needs and expectations of students is a key component of the concept of student satisfaction when it is linked to other concepts of continuous improvement and accountability reporting. The joining of the satisfaction construct with other management constructs is another development in the education and training literature. As this more recent development draws heavily on market and consumer research, it is appropriate to offer a brief review of customer satisfaction from this perspective and to then return to education and training.

Customer satisfaction concepts

The notion of customer satisfaction encompasses the belief that a satisfied customer will enhance the position of an enterprise either through repeat purchasing or positive word of mouth, which in turn leads to either maintained or higher market share and increased profit. The converse of this notion is that a dissatisfied customer will complain, and if not completely satisfied by a response, will withdraw loyalty from the enterprise providing the good or service and change to another provider or withdraw from the market (Adler 1995; Jones & Sasser 1995; Kekre et al. 1995; Oliva, Oliver et al. 1995; Page 1995; Fornell, Ittner et al. 1996).

Constructs of customer satisfaction typically build upon concepts such as individual wants, needs and expectations. These concepts are initially located in theories about consumer choice for goods and services which are sought to meet needs and wants (Sheth et al. 1991; Heylen et al. 1995). The concept of choice invokes a market concept where alternative or competing goods and services are available so that the action of choice can be exercised. Choice is influenced by issues of price, quality, location, availability, utility and appeal to other individual drivers. Once a choice has been made and the good or service experienced, then the consumer will form some level of satisfaction about that experience or about the perceived attributes of the good or service. Choice may also be exercised in markets by the consumer deciding not to purchase or participate.

At this point we need to consider a number of definitions of the term 'satisfaction'.

Oliva et al. (1995) propose that satisfaction is a function of product performance relative to consumer expectations; Parasuraman et al. (1994) suggest that it is a function of the customer's assessment of service quality, product quality and price. Jones and Sasser (1995) define customer satisfaction by identifying four factors thought to affect it:

- baseline product performance characteristics expected of any good or service in competition with each other
- the provision of basic support services to the customer
- the presence of a recovery process for counteracting bad consumer experiences
- extraordinary services to meet customer preferences or needs (customisation)

Ostrom and Iacobucci (1995) bring together a number of definitions from the literature and differentiate between the concept of consumer value (and associated factors of the cost/price/utility relationship) and customer satisfaction. To them:

> *. . . satisfaction is a relative judgement that takes into account both the qualities and the benefits obtained through a purchase as well as the costs and efforts borne by a customer to obtain that purchase.* (Ostrom & Iacobucci 1995, p.17)

They also suggest that customer satisfaction has an affective component, is experiential and is best judged after purchase. These definitions tend to focus

on the formation of satisfaction at the end of, or during the consumption of the good or service.

Johnson et al. (1995) however, make the observation that the modelling of customer satisfaction depends on the framework of conceptualisation. They conclude that there are two conceptualisations in the literature of customer satisfaction:

- a transaction-specific one which focusses on individual consumer responses to individual products and services
- a cumulative one that describes the total consumption experience of a customer with a product or service

They describe satisfaction in this cumulative context as:

> *. . . not a transient perception of how happy a customer is with a product or service at any given point in time. It is a customer's overall evaluation of his or her purchase and consumption experience to date.* (Johnson et al. 1995, p.699)

In developing their market model, Johnson et al. identify three antecedents:

- performance (perceived product quality relative to price)
- expectation (attitudes or beliefs about expected levels of performance)
- disconfirmation

The concept of *disconfirmation* (the degree to which perceived performance confirms or disconfirms performance expectations) is argued to be a problematic concept for aggregate market approaches to satisfaction, but is identified as having an important role in developing transactional models of satisfaction. It is significant that disconfirmation theory and techniques have been fundamental to satisfaction research (Oliver 1977) and are now extensively used within education and training literature on student satisfaction (for example Briendel 1995; David Hides Consulting Group 1995; Franklin & Shemwell 1995).

Fornell, Ittner et al. (1996) progress the cumulative and aggregate market approach to satisfaction in presenting their American Customer Satisfaction Index (ACSI). This satisfaction index measures the quality of the goods and services between enterprises and industries as experienced by the customers who consume them. The development of this model rests on aggregated market relationships between underlying customer characteristics such as perceived quality, perceived value, customisation, reliability, customer expectations and price tolerance. This wide-scale index approach to satisfaction measurement is of interest in that it represents a methodology for national or State education and training agencies to make comparisons of customer satisfaction over time, place and course of study, and to evaluate price/quality interactions with satisfaction measures. Oliva, Oliver et al. (1995) have also proposed a generalisable predictive model of consumer satisfaction to overcome the problems of deriving relationships between antecedents and satisfaction.

Many measures of satisfaction used in the education and training sector (for example the satisfaction scale embedded within the VET Graduate Destination Survey) do not demonstrate this capacity for maintaining comparative measures over time. The development of such generalisable

models of satisfaction offer the education and training agencies a capacity to build valid and reliable comparisons across institutions and sectors over time and present a cumulative explanation of customer satisfaction behaviour which could also be used for predictive purposes.

Market-oriented student satisfaction measures

The text by Kotler and Fox (1995) provides a systematic guide to satisfaction concepts in the education and training sector and includes most of the customer satisfaction concepts from market research. They take the reader through a comprehensive explanation of satisfaction via the perceived performance and expectations relationship (the transaction domain) and differing individual expectations and perceptions (the antecedent domain). The issue of customer value (that is, price and quality) in the satisfaction equation is then used to highlight the duality between the cost to the institution of satisfying customer needs and the price to customers (students) of acquiring satisfaction. The customer price of satisfaction is discussed and is said to include money spent, time, effort and opportunity cost. The authors conclude that value is a matter of customer perception and judgement, not just price paid.

In examining the value component of satisfaction they criticise a narrow conception of value where costs of a course or institution are related to simple outcome measures of achievement, such as graduation or completion rates. While this type of value measure is often used by external funding agencies, they argue that this approach ignores the quality dimension of value and does nothing to relate cost to the needs of the student. They suggest that:

> *Since value is the relationship between price and quality, the institution can increase value in two ways: reduce price (across the board or through financial aid for certain students) and/or increase quality. Forward looking institutions are trying to enhance value in both ways.* (Kotler & Fox 1995, p.43)

The price component can either be reduced by reducing tuition fees (not likely), slowing down the rate of increase in tuition costs to the rate of inflation, or saving student time and effort by streamlining enrolment processes, examination processes or providing more flexible access to instruction. Quality enhancement might address issues such as improved career services and job placements, program customisation, student services and facilities, and other program elements.

Having explained concepts underpinning the construct of satisfaction Kotler and Fox then provide the bridge between theory and practice by suggesting that price and quality enhancement can only be maximised if they are seen as activities subject to continuous improvement. This then leads the authors to a discussion on the concept of the responsive institution and its commitment to its client base:

> *No educational institution can flourish without a sincere appreciation for the needs of its students, which begins with how the institution treats those who inquire about admission, and follows those who enrol through graduation and through their subsequent years as alumni.* (Kotler & Fox 1995, p.24)

The Kotler and Fox approach to student satisfaction provides an important benchmark since their study reflects most of the developments and techniques of the mainstream market research literature on customer satisfaction, and translates them to an educational context. Using their approach as a benchmark, student satisfaction reports can then be categorised as those which:

- do not reflect a market disposition but use student satisfaction measures as a dependent variable to gauge the impact of institutionally initiated change
- reflect a limited market approach where data on satisfaction are collected on a periodic basis, but without reference to a management plan of continuous improvement and responsiveness to student needs
- reflect the adoption of a market-responsive ethos with student satisfaction measurement as one key tool in an array of techniques being used either to establish an ongoing management culture devoted to quality or to develop a model of student satisfaction (Franklin 1995; Sanders 1994; Walters 1994 ; Wince & Borden 1995)

Issues from these last two categories of satisfaction research in education and training are considered below.

Integration of customer satisfaction concepts into education

Studies from the previous section draw from both market research and customer satisfaction literature. They also tend to serve multiple purposes such as accountability, quality standards, marketing and promotion, and research. For example, many of these reports are responses to increasing demand for publicly funded education and training sectors to be more accountable to central agencies. An accepted means of demonstrating this is for institutions to develop performance criteria which measure response to student and employer demand.

There are, however, dangers in merely implementing a data gathering technique such as customer satisfaction research, or embracing a set of benchmarks or standards without addressing the issue of creating an appropriate management culture. This issue is raised in the recent Australian report of the Wider Quality Council (Foley, Barton et al. 1997). Kotler and Fox (1995) also emphasise the underlying importance of responsiveness and an appropriate management culture if educational institutions are to operate and be successful in a market-driven climate. The question of how to achieve this management climate is not part of this review but readers could take the Foley and Kotler and Fox documents as useful starting points.

In the United States, accountability requirements placed on states and training institutes in receipt of federal funds (distributed under the Carl D Perkins Vocational and Applied Technology Act of 1990 [Public Law 101–392], and more recently by the School to Work Act of 1994) have demanded an outcomes-style annual report which incorporates student satisfaction measures.

Another systems-level example is provided by Walters (1994) who presents an accountability statement from the chancellor's office of the Californian Community Colleges to the board of governors in response to a Californian

Assembly requirement. In this document Walters describes how the chancellor's office is moving away from traditional functions of compliance, regulation and input measurement to one of accountability based on student outcomes. Student satisfaction is one of the collected accountability factors.

Oregon has recently reviewed its higher education system where the Oregon Business Council (OBC) (1996), in conjunction with other business associations, has presented a detailed case for a customer-driven higher education system. They have argued that their higher education system must:

> *First and foremost, become thoroughly customer driven—in both philosophy and organizational behaviour. Stay closer to customers, listen and respond to what they want, anticipate and propose services, continuously evaluate and improve service delivery, and build and maintain long term relationships.*
>
> (Oregon Business Council 1996, p.3)

The OBC report details actual benchmark and performance indicator measures for their higher education system.

Youngman (1996) reports on the implementation of an educational marketing plan by Salt Lake Community College based on a customer service approach and designed to improve institutional effectiveness and student satisfaction.

This plan illustrates many of the procedures advocated by Kotler and Fox and includes key items such as a retention and recruitment program, market identification and segmentation studies, and follow-up surveys to former students and local employers. Increased enrolments were experienced in the years following the implementation of this institution-wide plan.

Peacock (1997) uses techniques of factor and regression analysis to determine which particular items of student satisfaction contributed to an overall satisfaction measure on attendance at Oberlin College, Ohio. He found that three of nine factors significantly contributed to overall satisfaction. These three factors were social life, academic experience and faculty relationships. These findings have some congruency with the dropout and withdrawal constructs initially developed by Tinto.

In Australia, some VET institutions undertake student satisfaction surveys and embed these surveys in a management culture based on continuous improvement and responsiveness to customer need. However, these tend not to be in the public domain. This contrasts with the USA where many states require publicly funded colleges to provide annual performance reports which include reports on student satisfaction.

Discussion about the derivation of frameworks to justify student satisfaction activities and measures is often absent from the literature. Consequently writers and analysts appear to overlook important messages contained within their data. Australian examples of this are the 1993 National Centre for Research and Development (NCVER) report of vocational education graduates (Dawe 1993) which declares a major objective of monitoring client satisfaction but provides no explanation on the construct of satisfaction. Consequently, important messages about particular elements of service performance are not separated from messages of overall performance.

This style of reporting student satisfaction is common to many large-scale studies and highlights the issue of analysis without theoretical frameworks, benchmarks or standards for the satisfaction concept. In many market situations, consistent findings over time that at least a quarter to a third of the customer base is less than satisfied about specific product or service elements would provoke major organisational reviews to ensure an outcome which approached total customer satisfaction. Is there a benchmark level of student or client satisfaction for the VET sector, or is there an inherent conflict between issues of maintenance of standards in education and training and total customer satisfaction?

From this limited sweep through the education and training literature it can be deduced that student satisfaction has been extensively used as a measurement of change variable, either in small-scale surveys, quasi-experiments and evaluations or in large-scale performance indicator exercises. It can also be deduced that there has been very little research to develop an educational or training model of student satisfaction which explains relationships between antecedent student behaviours and expectations, their education and training experience and their market behaviours regarding choice. The concept of a training market that is relevant to the institution and its customers is also not well developed. The linking of such a student satisfaction construct with a management construct is also uncommon.

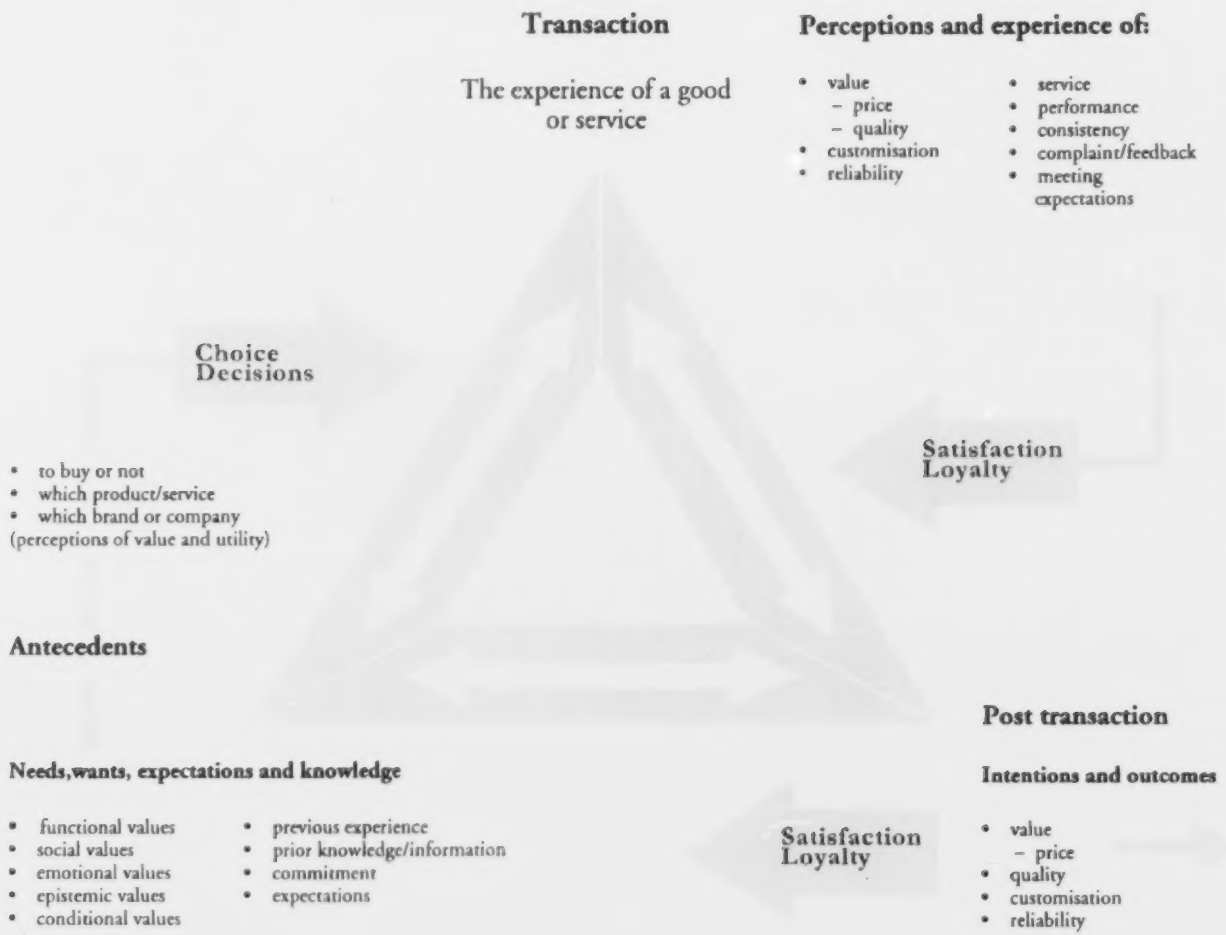
Formation of a customer satisfaction model

From this review on customer satisfaction research, three points in the formation of a customer satisfaction concept can be identified as:

- a domain of antecedents which consumers bring with them, and which predispose the consumer to the good or service. These antecedents cover a range of experiences, values and expectations covering basic issues such as choice factors, previous experience, prior knowledge and subliminal drivers.
- a transactional domain where the consumer experiences the product or service and its attributes (reliability, performance, service, quality and price). In a service environment such as education and training this transactional domain might occur over an extended period of time.
- an outcomes domain which results in specific and ongoing levels of satisfaction and consequential reactions to the experience. For the consumer this might be repeat purchase and recommendation to others. Alternatively, it might mean the consumer withdraws from the market for that commodity, or else switches loyalty to another provider. For the provider of the good or service it might mean maintained or increased market share with some attention to improvement, or a frenetic internal exercise of review and improvement if market share remains static or falls.

The developmental state of the customer satisfaction research literature and the variability of findings or practices have the potential to obscure a basic understanding of the satisfaction concept. To assist understanding, a skeletal model of satisfaction and how it relates over time to decisions to purchase, re-purchase, shift to another supplier or withdraw is presented in figure 1. This model is a composite derived from the reviewed literature. It provides the

Figure 1: A model of customer satisfaction



Source: Fornell, Ittner et al. 1996; Kekre et al. 1995; Kotler & Fox 1995; Sheth et al. 1991; Waddell 1995; Oliva, Oliver et al. 1995

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reader with a structure to locate many of the identified variables, concepts and relationships using the three components of antecedent variables, transaction variables and outcomes. It is deemed a static model in that it does not describe time and size effects, but does imply some notion of dynamics through the possibility of successive interactions between transactions. This model will be used to structure the education and training literature on student satisfaction.

The model identifies three points in a cycle of consumption and satisfaction. At each point different questions can be asked to gain understanding of the satisfaction components operating at that time (see table 1). The first point represents the background or antecedent factors which lead or influence the decision of a consumer to buy or experience a good or service. A range of factors drive individuals to this decision point including values, perceived needs, expectations, prior knowledge and experience. The consumer then decides whether to purchase or experience a particular general category of goods or services (whether to study or not to study), which particular product/service (which particular qualification or course of study), and which particular brand (which particular institution). At this selection stage dimensions of perceived value (price and quality) and utility will influence these individual decisions. The exercise of choice will also partly depend on the configuration of the market at that time.

Having chosen a good or service, the consumer experiences its attributes. During this transaction process and based on experience, the consumer will develop perceptions about the attributes of the product/service. Attributes will be assessed on issues of value, reliability, customer service, performance, consistency, customisation to meet needs, fulfilment of expectations and the handling of or response to complaints.

The body of customer satisfaction research literature suggests that 'point' satisfaction is a function of individual responses to these product/service attributes. For services such as education and training which are provided over a period of time, an ongoing interaction occurs between the course and the student, so levels of satisfaction may change according to the accumulating range of experiences. For some, the accumulating experience may negatively affect satisfaction and initiate a withdrawal or transfer to another institution before completing the planned course of study.

After consumption a more reflective measure of satisfaction occurs. This is a more complex cumulative outcome which feeds into subsequent attitudes towards the particular product or service. In education and training terms this longer-term reflective level of satisfaction in its broadest sense is the one which predisposes the individual to a lifelong engagement with education provided by an institution. In its most specific application it is probably a major determinant for an individual to return to an institution or faculty to continue his/her education.

Table 1: Composite dimensions of a customer satisfaction questionnaire

Satisfaction domain	Components of satisfaction	Examples of question or data type
Antecedent domain	Needs and wants Drivers to mark entry Expectations Prior experience	Socio-economic and demographic indicators. Why purchase or select? How important? What do you think you gain? Been here before?
Transactional domain	Product/service attributes ❖ performance ❖ customisation ❖ consistency ❖ reliability ❖ value • price • quality Expectations met (immediate) Overall satisfaction Complaint handling	Did it perform to a baseline standard of competitors? Did it meet your needs and expectations? Was it important? Was it adjusted to suit your needs? Does it deliver the same standard over time? Is it delivered on time or does it break down? Could you complain and were you listened to? How satisfied? Any areas of dissatisfaction? Improvements? What particular attributes attracted you? Did they perform to expectation? Given the cost, is the quality satisfactory? Do you get value?
Outcomes domain	Repurchase/continue Tolerance to price/quality variation Expectations met (longer-term) Loyalty Recommend to others Consider competition/ alternative	Will you continue to purchase or use? Will you repurchase in the future? Will you repurchase if the price increases by . . . ? If product/service attributes altered (specify) would you purchase? Would you consider similar products/ services from other enterprises? Would you recommend product/ services to friends etc? How satisfied now (overall)?

Source: Fornell, Ittner et al. 1996; Kekre et al. 1995; Kotler & Fox 1995; Sheth et al. 1991; Waddell 1995)

Deriving a student satisfaction instrument

The student satisfaction instrument used in this study was a product of a number of design constraints. These constraints were:

- The need to maintain comparability of measures with those used in previous VET student satisfaction studies. In particular the need to maintain some element of connection and comparability between the Graduate TAFE Student Satisfaction Surveys (ABS 1995b) and some State and TAFE institute surveys with our research was considered important.
- The funds available for this research which only allowed a once-off measure of satisfaction. This meant that dynamic relationships which make up satisfaction such as the role of cumulative experiences and the dynamics between antecedent decision factors (for example, need, expectations, price,

information and choice) with post-experience behaviours (for example, met satisfaction, loyalty and repeat purchase or recommendation) were not fully explored in either the satisfaction instrument or the overall project.

- Insufficient time to empirically investigate underlying constructs of student satisfaction. Consequently, the satisfaction instrument is derived from the literature and thus is a compromise reflecting a number of theoretical and applied positions.
- The need to design an instrument which could be completed quickly by students undertaking a variety of courses in a variety of settings (from TAFE institutes to employment locations ranging from shop floors in retail, automotive and hospitality). This meant that the instrument had to be designed as a self-completion questionnaire to cover a range of situations and abilities.
- The propriety nature of many leading-edge instruments for measuring satisfaction. Details on underlying constructs and process methodologies for many satisfaction measures are not in the public domain, so could not be incorporated into this study.

Within these constraints, the student satisfaction instrument developed for this project reflects a static snapshot or transactional approach to the three broad dimensions presented in the satisfaction model. At one point in time the student is asked to provide responses on:

- course and institution from recalled antecedent dispositions
- a range of cumulative experiences
- projected reactions of post-transaction loyalty

The student satisfaction survey instrument derived for this study and a rationale for the questions are included as appendix 2.

Case studies (retail)

The retail industry sector in Australia is large and diverse. It is part of the retail and wholesale industry and is mainly concerned with purchasing goods from manufacturers and wholesalers, and offering these goods for sale through shop front operations.

In terms of sales of goods and services, retail is the third largest of Australia's industries behind manufacturing and wholesale. In the financial year 1997–8 total retail turnover was $134 585.5 million or 48 per cent of total private consumption expenditure (ABS November 1998a). Retail turnover accounts for a major share (approximately 40% in 1997–8) of expenditure-based estimates of gross domestic product (ABS 1998a).

The Australian Bureau of Statistics (ABS) divides the retail industry into ten sectors:

- supermarkets and grocery stores
- specialised foods
- department stores
- clothing and soft goods
- furniture, houseware and appliances
- recreational goods
- other personal and household goods
- household equipment repair services
- motor vehicle retailing
- motor vehicle servicing

According to the ABS *1998 Yearbook Australia*, there were 138 700 retail businesses operating in Australia in 1994–5. While size of retailing operations varies greatly, the industry is dominated by small businesses which account for around 97 per cent of actual retail locations.

Retailing employs over a million people, most of whom are women and young people in part-time and casual positions. Of a total labour force of 9.2696 million in 1997–8, 1.2453 million (13.4%) were employed in the retail trade and part-time employment accounted for 45 per cent of total employment in the industry (ABS 1998b).

Training

The retail industry in Australia does not have a strong track record in developing its workforce. Compared with other industries (for example finance and insurance), it is well below the industry average in training expenditure as a percentage of wages and salaries. Training expenditure in

1993 was 2.4 per cent of retail and wholesale wages and salaries—ranking ninth out of the 11 industry categories (OTFE 1996b).

Typically, the cost of employees is a large overall expense, hence taking staff off the store floor for training is not a realistic option for most companies. Investment in human resource management, particularly training and development, has been minimal with a few notable exceptions. Consequently, resource intensive strategies which require face-to-face training cannot be widely implemented.

As noted by Smith and Gonczi (1996), the majority of training in the industry takes place in-house which generally focusses on operator and advanced operator levels (for example, selling, customer service, product knowledge). For the most part, this training is narrow and trainers are generally unaware of broader-based training philosophies and techniques.

Retail training is also offered by various providers, most of which focus on entry-level training, although continuing training is provided by TAFE institutes, universities and private providers. External training providers include:

- TAFE
- private providers
- product trainers
- industry associations
- universities
- schools

Two similar, but unrelated retail courses have been investigated for this study:

- The Certificates II and III in Retail (Sales and Service–Esprit) delivered by Esprit (Australia) Pty Ltd
- The Certificate II in Fashion Sales and the Certificate III in Fashion Retailing delivered by Torrens Valley Institute of TAFE at its Tea Tree Gully campus.

Case study 1: Esprit (Australia) Pty Ltd

The specialty fashion retailer known as Esprit began in San Francisco (USA) as the Plain Jane Dress Company in 1968, and has grown into a worldwide company with operations in over 44 countries.

Four organisations form the basic structure of the business:

- Esprit de Corp San Francisco, the founding company, designs product lines and distributes them at wholesale and retail levels.
- Esprit de Corp GmbH designs the Euroline in Dusseldorf, Germany, specifically for the European market. The German headquarters also fulfil administrative, communications and distribution functions for Esprit Europe's 11 affiliate companies.
- Esprit Far East (Distribution) Ltd, based in Hong Kong, provides design, manufacturing and sourcing expertise for both the United States and

European design studios. The company oversees extensive wholesale and retail distribution throughout Asia and retail distribution in Australia.

- Esprit International, a Californian partnership located in the San Francisco headquarters, is a licensing arm of the Esprit trademark and provides worldwide image support to various countries.

Today, Esprit manufactures and distributes approximately 60 million garments and accessories annually. As a privately held network of companies Esprit employs more than 4000 people.

Esprit (Australia) Pty Ltd

Esprit began a wholesale operation in Australia in 1981 with a staff of five and ten wholesale customers. The first factory outlet store opened in Bridge Road, Richmond (Vic.) the following year, and by 1984 wholesale sales turnover reached $11.6 million.

In 1985 Esprit opened its first retail store in Lygon Street, Carlton and by 1988 there were 12 retail outlets. In 1991 the company established the 'Esprit Cares Trust' to assist 'young people at risk' (primarily homeless and unemployed youth) and to support environmental issues. The following year saw the restructure of wholesale operations to only nine major clients and a rapid expansion of retail to 25 stores.

By 1998 Esprit's operations in Australia included 43 concession stores (company-owned and -operated stores within department store chains) and 63 free-standing stores nationally. The company employs approximately 650 (full-time, part-time and casual) sales staff in these retail outlets.

Esprit Certificates II and III in Retail (Sales and Service)

The Esprit Certificates II and III in Retail (Sales and Service) were developed during 1995–6 in partnership with the Holmesglen Institute of TAFE in Victoria as part of the Australian Vocational Certificate Pilot Program. The 364-hour training course is based on enterprise competency standards which are aligned to the National Retail Core Competency Standards to ensure portability of the qualification.

Designed for sales colleagues working in Esprit stores, the program was developed as self-paced, stand-alone packages which include a trainee workbook and trainer guide. The two levels of the program consist of 20 modules (ten for each level) covering ten areas, or units of competency. These are:

- customer service
- point-of-sale transactions
- loss prevention
- visual merchandising
- store administration
- human resources
- store budgeting

- communication
- self-management
- working with others

All 20 modules are compulsory, but recognition for prior learning (RPL) may be granted as appropriate. As most learning occurs on the job, trainees are mentored and assessed by relevant store personnel (usually store managers) trained in this role by Holmesglen.

In 1997, 56 of Esprit's sales personnel commenced the program in stores across Australia. It is estimated that on average it will take approximately a year for a trainee to complete each level of the course. Because of the flexibility of the course there is no prescribed sequence of study, so a trainee may complete one level at a time or the two levels concurrently, according to individual needs. Trainee progress is tracked at Esprit head office so that the company has a complete training record of each employee to inform its planning processes.

Case Study 2: Torrens Valley Institute of TAFE

Torrens Valley Institute of TAFE is situated on the north-eastern outskirts of Adelaide. The new campus at Tea Tree Gully offers the Certificate II in Fashion Sales and the Certificate III in Fashion Retailing. The Tea Tree Gully campus is sited close to a large regional shopping complex which includes many fashion retail outlets.

The origins of the course were described by the course co-ordinator as follows:

> *Manufacturing and pattern making, the design side of the textile, clothing and footwear (TCF) industry, was struggling in Australia, and here in South Australia in particular. We didn't have the big businesses whereby we would have a lot of employment outcomes, but also in the TCF industry* [there] *is a huge retail sector in . . . sales of clothing, boutiques, specialist surf shops, shoes, jewellery, accessories . . . So we identified that as a huge potential for employment, because there was a downturn in employment in TCF and the clothing sector . . . We would have skills that we could transfer or train people into, we could help them in the retail side of things. So that was our initial aim—to have employment prospects for our potential students, within the industry.*

The course co-ordinator described the problems encountered with the retail industry and how the institute worked around these.

> *We went to retail businesses and said: 'Look, this is our new course, would you like to have a look at it and we can offer these skills to your staff? Would you be interested in sending your staff to have some training, not so much in the retail subjects but in the product knowledge subjects?' They agreed . . . but weren't forthcoming. They didn't want to release people, time-wise, and people weren't available after hours, or if they worked long hours for their stores, they weren't available for training as well. That has changed slightly but it hasn't come from the retailers themselves. It's more the students coming here, . . . they'll get part-time work or . . . work experience and they'll make some networks and then get work that way.*

These initial difficulties have led to the development of a very flexible course, and a stronger response from industry. The co-ordinators reported:

> *. . . we try and accommodate it so they can do both* [work and study], *drop down their studies to a part-time basis or . . . they might still be full time but they do it at different times of the day because we schedule classes from nine o'clock in the morning until nine-thirty at night so they can slot into a session and not be bound by this class on this day for this many weeks because they're working at their own pace. So it's sort of come around a different way to what we thought it would. And gradually retailers are starting to recognise* [it] *a bit more, now that there are extra skills that these people can come in with, and that's been quite encouraging.*

The course co-ordinator was asked about how students at Torrens Valley learn about the world of work, especially the retail sector. She said:

> *I think it's probably going to give the students a wider base of experience if they can move from one place to another doing work experience perhaps rather than doing it in here* [at Torrens Valley] *where we could only give them a limited experience in some, maybe middle-of-the-road garments, whereas there would be budget garments or they could go into footwear or they could go into a high class boutique. I mean all those experiences are totally different. Sure you've got the generic retail ones but there'd be different handling techniques for the customers and all those types of things which we couldn't hope to offer on that broader basis.*

Certificate II in Fashion Sales and Certificate III in Fashion Retailing

The Certificate II in Fashion Sales (291 hours) comprises 15 compulsory core modules and a range of 18 product knowledge modules from which a minimum of 50 hours is chosen. The Certificate II forms the first part of the Certificate III in Fashion Retailing (523 hours) which includes 23 compulsory core modules and a range of 25 product knowledge and elective modules from which eight may be selected with a minimum of 100 hours. Entry requirements are completion of Year 10, or the equivalent work or life experience. Recognition of prior learning may exempt students from some modules. Both certificates are competency-based.

Twenty students were enrolled in each course in 1997, almost all of whom were female. They range in age from 18 to late 40s. Students work in an open plan area that is modelled on the work spaces used in industry. Students have to learn to contend with noise, interruption and other distractions in the same way as anyone working in industry.

Classes are flexible. Students can commence the course at any time during the year and work at their own pace. Their work is logged onto a computer and is monitored and assessed continuously. Furthermore, student demand seems to shape the development of the courses.

For example, the co-ordinator observed:

> *. . . the* [students] *that I have had come in, particularly this year, have been really definite that they don't want to do any construction side of things, they just want to learn how to retail and that's been a bit of a change in trend.*

Case studies (hospitality)

The hospitality industry is a subset of tourism, the world's largest activity, accounting for one in every nine jobs worldwide (World Travel and Tourism Council 1994).

The tourism industry is large, diverse and complex, spanning a range of activities across public and private sectors. It does not fit easily into the definition of an 'industry' where 'groups of businesses undertake similar economic activity' (Castles 1995; ABS 1995a). Tourism and hospitality cut across many commercial settings and include broad categories of activity such as accommodation, transport, food sales, the retail of other goods, entertainment and business services.

It should be noted that businesses offering any one or more of these goods or services may be involved in more industries than tourism and hospitality alone. This creates a difficulty in measuring performance of the industry, as existing statistics cannot differentiate business attributable to tourism from other spending where businesses provide goods and services to a number of industries of which tourism was just one. Nevertheless, existing sources of statistics enable the detection of emerging trends.

To enable more accurate measures of economic performance, the ABS recommended the establishment of a number of industry categories, including:

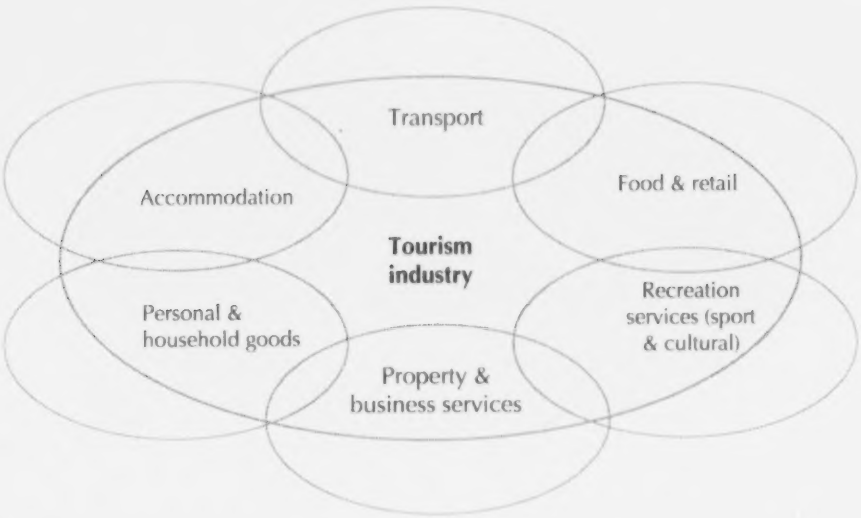
- accommodation
- food and retail
- personal and household goods
- transport
- property and business services
- recreation services (sport and cultural)

Based on these six categories, figure 2 has been used to illustrate tourism and its contributing industry sectors (Funnell & Ainsworth 1996). It suggests that tourism at any given time and in any subsection is an amalgam of parts of these six main sectors upon which it is formed.

It should be noted that this diagram does not show that the infrastructure and support needed to sustain tourism is often provided by forces outside the field (strategic interactions between government, business and industry).

Tourism Training Victoria uses a simpler model for the tourism industry based on four broad sectors: hospitality, travel, visitor services and gaming. This four-sector model is illustrated in figure 3.

Figure 2: The tourism industry



Source: Funnell & Ainsworth 1996, p.248

Figure 3: The tourism industry (Victorian model)

Source: Tourism Training Victoria 1996

These sectors are interrelated; that is, there is overlap in customer actions and function of venues. Hence, services to visitors and to the local residential population may not be easily distinguishable.

Tourism (which includes hospitality) is Australia's fastest-growing industry. It generates over $46 billion annually, employs more than 500 000 people, and creates one new job for every 17 visiting international tourists (Bureau of Tourism Research 1996). Tourist contribution to gross domestic product (GDP) and export earnings through domestic and international visitors is considerable, with the likelihood of accelerated growth into the next decade. However, the sharp decline in Asian tourism to Australia in the wake of the Asian financial crisis has had a negative effect on these projections.

The hospitality sector of the industry employs people in cafés, restaurants, clubs, pubs and nightclubs, function venues, resorts, motels and hotels, caravan parks, guesthouses and executive apartments. By the year 2000 this sector is expected to generate approximately 108 000 jobs in Australia, a 52 per cent increase on 1990 figures (McDowall 1997, p.2).

The industry is notable for its high proportion of small businesses (that is, those that employ fewer than 20 people) and extensive regional spread. At a national level, 80 per cent of the companies operating in tourism employ fewer than 20 staff. The industry is also characterised by a high proportion of part-time and casual employees, who are expected to make up to 65 per cent of the tourism and hospitality workforce by the year 2020 (Tourism Training Victoria 1996).

Training

Recently, TAFE food, hospitality and tourism training programs have experienced strong growth, especially at higher levels. From 1994–5 enrolments increased from 69 000 to over 75 000, most of whom were female. Tourism course growth 1994–5 was higher than the overall TAFE growth (10% as opposed to 8%). In diploma and associate diploma courses the numbers grew twice as fast—by 20 per cent to 9100 in 1995—that is, there was three times the growth rate in these courses compared to TAFE courses overall. According to graduate destination surveys, in 1994 there were over 10 000 TAFE graduates from courses (200+hrs) in food, hospitality and tourism. Compared to other TAFE graduates, 'tourism' graduates were generally successful in getting jobs.

Tourism Training Victoria identifies hospitality as one of the three streams in tourism-related VET courses (the others are cookery and tourism). Hospitality is divided into 'basic hospitality' (Certificates I–IV in Hospitality) and 'management hospitality' (Diploma of Hospitality and Advanced Diploma of Hospitality). It is the first year of the Diploma of Hospitality (Management) delivered by Holmesglen Institute of TAFE at the Royal Automobile Club of Australia's Club in Melbourne's CBD, and Box Hill Institute of TAFE at its Elgar Road campus in Melbourne's eastern suburbs which is the focus of the following two case studies.

Case study 3: The RACV Club

As part of membership of the Royal Automotive Club of Victoria, the RACV Club offers a variety of hospitality services and facilities to its 23 000

members. The club includes the City Club in Melbourne's central business district and the Healesville Country Club east of Melbourne. Both provide accommodation, restaurants, conference and banquet rooms, as well as sport and leisure facilities. In conjunction with Holmesglen Institute of TAFE, the RACV Club offers on-site training for Holmesglen students undertaking the Diploma in Hospitality (Management) at its premises at 123 Queen Street, Melbourne.

Holmesglen Institute of TAFE

Holmesglen Institute of TAFE, established in 1982, is Australia's first quality-assured educational institution. With an enrolment of approximately 30 000 students, Holmesglen offers more than 400 registered courses with modern teaching facilities on its two campuses at Chadstone and Glen Waverley. These include a diverse range of programs such as building and construction, business and computing, horticulture, furnishing, applied sciences, communications, industrial training, languages, tourism, hospitality, child-care and a range of recreational and hobby courses. It remains a stand-alone institute following the mergers initiated by the State Government Ministerial Review of TAFE in 1997.

Hospitality training is delivered from the Chadstone and Waverley campuses of the institute. The first year of the Diploma in Hospitality (Management) which is delivered at the RACV Club is funded through the School of Hospitality and Tourism.

The course: Diploma in Hospitality (Management)

The Diploma in Hospitality (Management) aims to assist students to acquire, develop and practise skills and competencies required at an operational level (such as waiting or bar work) in the hospitality industry. The course is offered by numerous TAFE institutes throughout Australia.

Workplace-based training for students undertaking the Diploma in Hospitality (Management) has been offered by Holmesglen TAFE at the RACV Club since 1995 with an initial intake of 20 students. Currently, 60 students are enrolled in the program. A second cohort of 20 students began at the Hilton Hotel in 1997 and another 20 students commenced the program at the Windsor Hotel in 1998. The course is fully accredited and nationally recognised. It was developed in conjunction with the national and State tourism industry training boards and is endorsed by industry, ensuring relevance to the workplace.

This course is delivered full time over 18 months (compared with two years at Box Hill), the first 12 months of which is entirely on location at the RACV's City Club.

The final six months of the course is undertaken at Holmesglen's Chadstone campus.

During the first year, students rotate, on a fortnightly basis, between on-the-job and off-the-job delivery modes.

On the job

There is a strong emphasis on practical training in a functioning workplace, so students are placed in all nine of the club's departments to gain supervised, hands-on experience.

A workplace supervisor maintains ongoing contact with the students while they are on-site. They are also required to complete various modules for assessment during this time.

Off the job

Formal theory classes are held in training rooms at the club and include self-directed learning activities, lectures and tutorials, discussions and role plays.

Students are also given access to various parts of the RACV Club where they can be given demonstrations or carry out activities such as wine tasting or coffee making. Demonstration trolleys featuring a hot plate are also used during these sessions. In this first year, computer classes are conducted at Chadstone campus.

The course is competency-based, and students are assessed by trainers who observe their performance on the job. They also complete written and oral exercises and role plays as part of the assessment requirements.

The course is open to VCE (Victorian Certificate of Education) graduates and mature age students. Selection is made on the basis of an interview by a committee comprising RACV Club and Holmesglen hospitality staff.

Case study 4: Box Hill Institute of TAFE

Box Hill Institute of TAFE was formed in January 1984 from a merger of Whitehorse College of TAFE and Box Hill College of TAFE and services approximately 27 000 students. It operates out of five campuses in Melbourne's eastern suburbs and offers a wide variety of programs from its four teaching divisions of: business and hospitality; health, arts and sciences; electronics technology; and building and engineering. Like Holmesglen, it remains a stand-alone institute following the mergers in July 1998 initiated by the State Government Ministerial Review of Victorian TAFE.

Hospitality training at Box Hill is run through the business and hospitality division at the main campus at Elgar Road. The Hospitality Management and Tourism Department offers initial-entry courses, apprenticeships in cookery, diplomas and advanced diplomas in hospitality management. The diploma and the advanced diploma are recognised by the Australian Hospitality Review Panel and are widely recognised by industry.

There is considerable investment in teaching facilities which include commercial kitchens, general purpose classrooms and demonstration rooms. Some of these facilities are sponsored by industry. Students operate a restaurant and bar with a commercial focus under the direction of food and beverage teachers.

The course: Diploma in Hospitality (Management)

At Box Hill, the Diploma in Hospitality (Management) is delivered full time over two years, or part time over three to four years; however, the focus of this study is on the first year (Certificate IV). In 1997, 139 students were enrolled in the program. Most of these were studying full time.

The course involves approximately 1071 contact hours with 200 hours of unstructured work experience (usually carried out in their own place of employment). First semester modules are mainly introductory or practical subjects such as food production and introduction to front office/reception. Second semester is more theory-oriented and includes generic subjects such as cultural awareness and quality assurance.

Delivery mode includes face-to-face (lectures, tutorials, discussion) and practical application in a simulated environment. Workplace simulation is a common teaching method, particularly for food and beverage subjects. Box Hill TAFE has many kitchens set up as classrooms and the campus restaurant also provides hands-on learning experiences for students. Housekeeping is taught in simulated hotel rooms at the Elgar Road campus, where students can practise skills such as making up a room. There are also some informal arrangements with city hotels whereby students gain experience in workplace situations within the housekeeping area of the course.

Graduates may seek work in hotels, motels, restaurants, hospitals, clubs, retail liquor outlets, reception rooms, entertainment centres and food service centres.

Case studies (automotive)

The automotive industry in Australia is an important part of the domestic and export economy. However, it is difficult to obtain statistics about its size and contribution to the national wealth because the statistical categories used by the ABS do not identify it, but rather use categories which cut across the industry.

However, it is possible to get some idea of its importance to the economy by examining additional statistics relevant to the industry. For example:

- in 1996–7 there were 557 962 new motor vehicle registrations in Australia and of these vehicles, around 304 000 were locally manufactured
- in 1996–7 there were 88 204 light commercial vehicle registrations in Australia and of these vehicles, around 27 000 were locally manufactured
- in 1995 there were an estimated 10.95 million motor vehicles in Australia of which about 8.5 million were passenger vehicles and 1.5 million were light commercial vehicles
- in 1996–7 there were 148 enterprises that spent $148m and 2.3 thousand person hours on research and development (R&D) on motor vehicles. This represented the second largest R&D expenditure in the manufacturing sector (after electronics), and made up around nine per cent of all research and development (private and government) in Australia for the year.

(The above statistics are from the ABS world wide web site: http://www.statistics.gov.au/websitedbs/D3110124.NSF/0ab4188484b99ec04a25648b0014a817?OpenView)

A useful distinction exists within the automotive industry between:

- passenger vehicle manufacturers
- special components manufacture

It has not been possible to establish how much each of these sectors contributes to the Australian economy; however, it is most likely that both sectors make a large contribution to the local economy and to exports. For example, in 1991–2, the automotive repair and service industries (not elsewhere classified) group of industries had a turnover of $4259 million. (ABS inquiry service [personal communication])

This study examined windscreen fitting which is part of the special components sector of the industry. (Windscreen fitting is classified by ABS as part of the automotive repair and service industries [not elsewhere classified] category referred to above.)

The program selected was the Australian Autoglazier Training and Certification Program (AQF levels I–IV) offered by:

- Windscreens O'Brien
- Barton Institute of TAFE in Melbourne

The Australian Autoglazier Training and Certification Program (AQF levels I–IV)

The Australian Autoglazier Certificates I–IV were developed using the Autoglazier Stream Competency Standards. They are modularised, competency-based, self-paced and designed to facilitate distance learning, or to be taught either in a one-to-one or group setting.

Modules comprising the program are combined to form increasing levels of competency while also increasing diversity. The first level consists of modules 1–5, which upon successful completion leads to accreditation at the AQF Level 1. Once these first five modules are completed, trainees can undertake modules 6 to 17 in any order (except for some prerequisites). Successful completion of all 17 modules leads to level IV certification.

Case study 5: Windscreens O'Brien

Windscreens O'Brien is an autoglass repair and replacement company which manufactures a large proportion of the windscreens it fits. It is part of Belron International, the largest autoglass repair and replacement company in the world. Belron's operations span 16 countries operating predominantly in the United Kingdom, the United States, Canada and Australia. In Australia Windscreens O'Brien employs approximately 500 people in its 60 branches.

The autoglazier certificates were introduced in August 1994 as part of an initiative by Windscreens O'Brien to re-orient the company to take account of customer relations. The increasing complexity and sophistication of windscreen fitting also required a more systematic approach to training. The national training reform agenda facilitated the development of the Australian Autoglazier Certificates 1–IV. Trainees are employees of Windscreens O'Brien and receive their training at the workplace .

At the time of writing this report, approximately 700 trainees had completed the program. Trainees progress through a series of 17 modules which are designed to ensure adequate coverage of theoretical and practical aspects of windscreen fitting and repair. Successful completion of all 17 modules leads to level IV certification. Modules 1–5 lead to level 1 completion.

The theoretical component is conducted largely by means of interviews undertaken in small trainee groups in the trainees' own time. Other training occurs in work time. A trainee reports to, and works with, a senior fitter.

Case study 6: Barton Institute of TAFE

Barton Institute of TAFE, at the time of the interviews in 1997, was a large Melbourne-based institute with two campuses, one in the inner suburb of Richmond and the other at Moorabbin. The institute delivered programs and services on-campus, in the workplace, and via flexible distance modes in Australia and overseas. Barton employed approximately 800 staff and serviced 20 000 students enrolled in a wide variety of courses. In July 1998, as a result of the Victorian State Government Ministerial Review, Barton merged with Casey and Peninsula institutes to form the new Chisholm Institute of TAFE.

One of the seven integrated business and corporate support units of the institute, Barton Automotive, recommenced operations in February 1997 following organisational restructure at the Richmond campus. It delivered a range of programs across the retail service and repair sector of the automotive industry and the transport and distribution industry. The Autoglazier Traineeship was one of 14 automotive traineeships run from the Richmond campus. Barton provided an important administrative role by organising the course and providing assessment in the workplace.

Students at Barton Institute of TAFE were typically employed by small businesses and received their training in the workplace. As with Windscreens O'Brien, the theoretical component was undertaken in the trainee's own time, while practical training occurred in work time. Trainees reported to, and worked with, a senior fitter.

Findings

This part of the report will be presented in two sections—costing and satisfaction.

Costing

This section presents the estimates of costs for the case studies undertaken. At the outset it should be explained that the estimates are illustrative rather than definitive. For the TAFE institutes, the size of the public revenues received for the provision of the course under consideration is known. However, since other students, and in particular international students, may attend the same classes, allocation of costs to students in particular programs is difficult and to some extent arbitrary.

For training delivered in the workplace, a major cost factor is the time the employer devotes to mentoring or coaching and the time the trainee is provided with off-the-job training. Only very approximate estimates of these are available, and even in the few cases considered in our research they vary widely.

The estimates are presented for recurrent costs. Where it was possible, information was collected on capital expenditures (for example, the Box Hill TAFE hospitality program), rental payments and on development expenditures in earlier years. Comment is made on these but it is not possible to include them consistently in the estimates.

Estimates are presented for the total expenditure and expenditure per student or trainee in each of the studies. However, the absolute size of the estimates is not the most useful information yielded by the study. More significant are the components of the costs and the factors giving rise to the differences in composition. In the cases studied one significant aspect is the variation in the relative share of the cost borne by the government and the private sector.

The estimates are presented for the hospitality courses, the autoglazier program and the retail certificates. A discussion of the findings follows.

Hospitality courses

Tables 2 and 3 provide basic details of the costings carried out for the hospitality courses. As discussed earlier in the report, Holmesglen TAFE delivered its program in the workplace at the RACV Club and at the Hilton Hotel. Box Hill TAFE delivers its course at one of its major campuses in Elgar Road, Box Hill. For simplicity we will refer to them as the Holmesglen workplace program and the Box Hill campus program.

A first point of comparison is the size of enrolment. The Holmesglen workplace program caters for 40 Australian students and the Box Hill campus program for nearly 140. This is important to remember when considering the implications of the cost differences which show that the Holmesglen workplace program is delivered at a demonstrably lower cost to government. It may be difficult to arrange similar workplace-based programs for large groups of students.

Public revenue

The estimated recurrent cost per student of the delivery of the Holmesglen workplace program was $5800. The cost for Box Hill campus program was $8900 or 50 per cent per student higher. The first reason for the difference is the obvious one: the Holmesglen workplace program was funded at only $5.54 per nominal contact hour whereas the Box Hill campus program was funded at the standard State training authority rate of $8.77. The Holmesglen workplace program was also funded for a smaller number of total nominal contact hours.

This difference in funding arises because Box Hill has been involved in the delivery of the hospitality program for many years and receives its funds through what is called State profile funding. These are the operating funds allocated by the Office of Training and Further Education (OTFE) to the State's TAFE institutes for the delivery of an agreed number of training hours within a specified set of programs. In addition to this type of funding, OTFE puts an increasing amount of the training, which it funds, out to tender to public or private provider. In 1996 Holmesglen tendered and won a contract to provide hospitality training for 40 students, at a price considerably below the rate for profile funding which Box Hill receives.

Direct delivery

The major cost of delivery lies in staff costs. Staff costs of the Box Hill campus program are about 33 per cent higher than those of the Holmesglen workplace program.

There appears to be a somewhat greater reliance in the Holmesglen workplace program on sessional staff, a practice which results in lower cost per student contact hour. However, Holmesglen chiefly deals with its low funding by delivering a large proportion of the training in the workplace. This mode of delivery reduces the role of staff in classroom teaching and increases the role of mentoring of students in the workplace. This is made possible by the placement of the students in work experience at the RACV and at the Hilton Hotel for half the time of the program. The employers and their staff contributed along with Holmesglen staff to the mentoring process. A charge was made by the RACV and Hilton of about $500 per student for the total cost of consumables, breakages, use of equipment and mentoring. In comparison, the food and beverage cost alone per student at Box Hill was nearly $1000 per student.

The low charge by the RACV and Hilton is in part compensated by the work of the students, for example, as assistant waiters in the dining room and as kitchen hands. The students are not paid trainees. The companies were also able to assess the students for employment.

Table 2: Certificate IV in Hospitality Management, costs and revenues, Holmesglen TAFE, 1997

	Number	Nominal hours	Total hours	Notes
Trainees	40	900	36 000.0	Plus 8 overseas students, whose *revenues* are not reported here (see#)
	Unit	**Rate $**	**Total $'000**	
REVENUES				
OTFE funds	36 000	5.54	199.4	
Enrolment fees @ $500 per trainee	40	500	17.6	31 full fee, others at concession rate
Total Australian revenue			217.0	
COSTS				
Direct delivery				
Manager	1.0	45 464	45.5	
Teachers	2.3	42 248	97.2	
plus on-costs @17.9%			25.5	
Professional staff			168.2	
Staff development			1.0	
Learning materials			7.0	
Promotion			2.0	
Travel and accommodation			0.6	
Uniforms and hotel items			6.3	
Food, drink—payment to RACV and Hilton				See item below**
Stationery, photocopying, phone, fax etc.			6.9	
Total direct delivery			*192.0*	
Indirect delivery				
Annualised development cost			na	
Administrative services and student services				
Holmesglen overheads			23.8	Reduced charge,includes clerical-administrative costs
Student services			17.6	Student fee used for student services
Property, plant, equipment				
Furniture and equipment			9.0	
Payment to Hilton and RACV			24.0	**Includes food and beverage, use of facilities and staff mentoring
Rental			13.0	Rooms used for off-the-job instruction
Total costs			279.3	# *Costs* cover international and Australian students
Per student estimates				
Holmesglen revenues per trainee			5.4	
Holmesglen outlays per trainee			5.8	Assuming 48 students (40 Australian & 8 overseas)
Staff costs per student			3.5	
Direct delivery per student			4.0	
Development costs in earlier years			23.0	*$18 000 equipment and $5000 personnel in 1996

Table 3: Certificate IV in Hospitality (Food and Beverage), costs and revenues, Box Hill TAFE, 1997

	Number	Nominal hours	Total hours	Notes
Students equivalent full-time	139	1 072	149 276	Excludes 21 international students
	Unit	**Rate $**	**Total $'000**	
REVENUES				
OTFE funds	149 276	8.77	1 309.2	
Materials charge	139	250	31.3	Assume 90% paid
Enrolment fees @ $500 per trainee	139	500	54.1	73% full fee, others at concession rates
Total revenue for Australian students			1 394.6	
COSTS				
Direct delivery				
Manager	0.35	27 391	9.6	
Teachers and hospitality administrative staff			590.7	0.35 Cost Centre's teachers and administrative staff
Casual hours @ $30–36 per hr	520	32	16.6	Excludes international payments
On-costs, including payroll tax		20.8%	128.3	
Sub total			745.2	
Staff development			0.0	Funded from overheads (see #)
Food and beverage			131.6	
Travel and accommodation			9.9	
Uniforms (charged to students)			0.0	
Stationery, photocopying, phone fax etc.			35.8	
Total direct delivery			*922.5*	
Indirect delivery				
Financial and legal			8.2	
Recruitment			13.7	
Marketing			5.2	
Computer costs			5.6	
Minor equipment			3.5	
Annualised development cost			0.0	Development costs assumed amortised in earlier years
General expenses			6.18	
Administrative and student services				
Box Hill Institute overheads			286.6	#Represents approx $1.91 per contact hour
Student services			54.1	Estimated as equals to fee revenue
Property, plant, equipment				
Equipment rental and maintenance			17.7	
Furniture and equipment			105.0	Assumes 1997 outlay a proxy for annual depreciation on accumulated plant
Rental			0.0	
Total costs			1 428.2	Includes some costs for international students

Table 3: Certificate IV in Hospitality (Food and Beverage), costs and revenues, Box Hill TAFE, 1997 (cont.)

	Total $'000	Notes
Per student estimates		
Box Hill revenues per Australian trainee 1997	10.0	
Box Hill cost per trainee—including international students	8.9	May be underestimate as some sessional staff funded from international funds
Australian student charges		
Enrolment fee, full-time	0.5	Included in revenues above
Uniforms	0.6	
Materials	0.3	Included in revenues above
Amenities	0.1	
Total	1.4	
International student charges		
Tuition	7.5	
Uniforms	0.6	
Materials	0.3	
Amenities	0.1	
Total	8.4	
Addendum		
Staff costs per student	4.7	
Direct delivery per student	6.0	
Furniture and equipment per student	0.7	

Other costs

Holmesglen's ability to deliver the course so cheaply is related to its access to a very low rate for the staff and facilities of the RACV and the Hilton. There is no ready estimate for the annual value of equipment used at Box Hill. However, outlays are made annually to replace equipment. The 1997 outlays on equipment can be considered a rough proxy for annual costs of equipment. These are substantial. Box Hill in 1997 outlaid about $660 per student, equal to about one-fifth of the cost differences between the cost of the Box Hill campus program and the Holmesglen workplace program.

The Holmesglen administration applied a reduced overhead charge to its new hospitality program, reflecting its low revenue, but justified by the fact that the students were based within the RACV Club and not on campus.

Holmesglen in its workplace program exempted its students from the materials charge levied at Box Hill. The survey of students confirmed that the Holmesglen students paid less in aggregate fees than did Box Hill students.

No development costs were included for the courses considered here, but costs incurred by Holmesglen in 1996 are shown at the foot of table 2. At Box Hill, the course has been delivered for many years and the ongoing costs of development can be assumed to be included in other costs.

The students' costs are not fully reflected in the tables. Hospitality students make a considerable expenditure on uniforms and equipment, with outlays of about $700 commonly reported. Students also can receive financial assistance from, for example, Youth Allowance but only about a quarter of the Holmesglen workplace students and a smaller proportion of the Box Hill students surveyed reported receiving Youth Allowance, even though nearly all were full-time students. The proportion receiving Youth Allowance was less than the national average for full-time tertiary students and the reasons for this are not obvious.

Autoglazier Certificate

Tables 4 and 5 present the estimates for the two studies of the Autoglazier Certificate. As discussed earlier, the standards for autoglazier certificates were developed by Windscreens O'Brien (WOB) up to level 4. The level II certificate can be delivered as a traineeship supported under the New Apprenticeship arrangements. Barton TAFE and Mackay TAFE in Queensland from 1997 have been engaged in the delivery of the traineeship developed by WOB. WOB and Barton TAFE both delivered the certificate entirely in the workplace. The differences in delivery are relatively minor although important and are mentioned below. There are substantial differences in funding of the two cases considered.

Trainee and mentor time on training

The estimated total recurrent cost of delivery of the Autoglazier Certificate II is approximately $6700 at Barton TAFE and $8800 for WOB. The main reason for the difference in total cost lies in the greater time both trainees and mentors gave to the training in the WOB delivery. However, the finding must be considered as very tentative and based on limited observation. In addition there is the problem of disentangling training time from other work time. Discussions with the supervisors indicate that most training is 'being shown how to do things on the job'.

WOB provides for some paid time release for trainees and a central and regional system of support for the training. This may contribute to the greater amount of paid time devoted to training by both mentors and trainees in the WOB case. The Barton TAFE program is delivered by a range of different employers and the employers studied did not indicate that paid time off the job was provided.

Who bears the cost?

There are considerable differences in who bears the costs of training in the two cases considered. In the Barton TAFE case, the State training authority provides $2700 per trainee but there is no current State Government or Commonwealth Government contribution to the WOB delivery.

WOB and the employers of the trainees in the Barton program can have access to arrangements to pay only for time on the job and to the National Training Wage Award. Under the National Training Wage, the actual wage payable varies by the education and experience of the trainee and the skill level of the

area under consideration. Unless specified, it is assumed that 20 per cent of the trainees' time is spent on training and the award reflects this. At a wage of about $300 per week this represents about $60 per week or a little over $3000 per year.

The employers of trainees are entitled to a subsidy of $1250 for the wages of the trainees during training and a similar payment on completion. The amount is the same per trainee for both case studies considered here.

Comparison of costs between the Barton program and WOB is complicated because the major item of outlay by Barton TAFE from the State training authority funds is the purchase of WOB module materials from Automotive Training Australia, as agents for WOB. This is shown in table 4 as a direct delivery cost for Barton TAFE.

Since WOB developed the materials for the course modules, only a low charge for them is indicated in the WOB costing. The Institute of Automotive and Mechanical Engineers (IAME) administer the modules for WOB for around $140 per student and carry out assessment at $36 per module or a little over $300 for the nine modules of the Certificate II traineeship.

On the other hand, WOB receives most of the payment made by Barton TAFE for the modules. This is shown in table 4 in the section on Development Revenues and Costs. It could be argued that this should be shown as an offset to WOB's cost of delivery of its training in 1997. WOB has undertaken considerable expenditure on the development of its training activities. WOB estimates its expenditure on the development of autoglazier training as $1 300 000 in the years 1992 to 1997, in addition to a grant in 1992 of $165 000 from the NSW State Training Authority. If we include the sale of the module materials it would also be necessary to apportion some of the development costs from earlier years to the 1997 costs of delivery.

Whereas expenditure by WOB is made to IAME for assessment, Barton TAFE undertakes the assessment for the trainees in its program—financed out of its funds from the State Training Authority. Trainees and their employers have to submit completed materials and request assessment for each module. If they are slow to do this, then assessment can be delayed beyond the year in which it was expected to be undertaken. In the workplaces of Barton TAFE trainees visited for this study, assessment had taken place later than might be expected for some trainees. It is possible that the national and regional structures established within WOB are more likely to keep trainees moving through their program faster than those in the Barton TAFE system where the encouragement to complete the modules can vary with individual employers.

There are a number of factors which add to the complexity of the costing and which have not been possible to include in tables 4 and 5. Employers in some States may be exempt from payroll tax and workers' insurance for taking on trainees. For small employers no payroll tax is payable, but the exemption from work insurance is a considerable saving. But to include the amount as an offset to employer costs here would also entail a consideration of wages paid.

Table 4: Australian Autoglazier Traineeship, costs and revenues, Windscreens O'Brien, 1997

	Trainees	Release hours	Total hours	Notes
Trainees 1997	23	115	2 645	Includes induction program and day per fortnight for first three months—in work agreement
	Unit	**Rate $**	**Total $'000**	
REVENUES				
Possible Commonwealth trainee subsidy during training (additional subsidy on completion)	23	1 250	28.8	Administrative complexity means not all branches complete claims for subsidy
COSTS				
National training manager and support			20.0	Estimate of cost of time training helpline and national maintenance of traineeship
Regional managers	0.05	200 000	10.0	Estimate of costs of regional managers time attributed to trainees
Inst. Auto. and Mech. Engineers. (IAME) membership	23	65	1.5	
IAME module administration	207	15	3.1	
IAME Assessment for nine modules	207	36	7.5	
Paid trainee training hours	2 645	15	39.7	
Branch costs	23	5.2	119.7	Based on average of Sth Melb and Geelong branches
Total national, regional and branch costs			201.5	
Per trainee cost estimates				
Total outlays per trainee 1997			8.8	
Possible Commonwealth subsidy per trainee ($1250 on training; completion payment also applicable)			1.3	Actual average received may be less due to perceived bureaucratic complexity
Approximate possible wage saving due to National Training Wage Award			3.0	The award assumes unless otherwise specified that 20% of time is spent on training and allows lower wage payment
DEVELOPMENT REVENUES AND COSTS NOT INCLUDED ABOVE				
Development revenue				
1992 NSW State Training Authority			165.0	Assistance with development of modules 1–5
Cost recovery—1997 sale of training materials	40	800	32.0	Barton and Mackay TAFEs purchased WOB materials for delivery
Development costs				
WOB training development costs 1992 to 1997			1 300.0	Estimate by WOB of costs 1992 to 1997

Table 5: Australian Autoglazier Traineeship, costs and revenues, Barton TAFE, 1997

	Number	Nominal hours	Total hours	Notes
Trainees	22	290	6 380	
	Unit	**Rate $**	**Total $'000**	
REVENUES				
OTFE funds	6 380	9.2	58.7	
Enrolment fees @ $40 per trainee	22	40	0.9	
Total Barton revenue			59.6	
COSTS				
Direct delivery				
Personnel				
Industry consultant	0.075	55 000	4.1	
Co-ordinator	0.100	45 000	4.5	
Admin. assistant	0.100	33 000	3.3	
Sub total			11.9	
Windscreens O'Brien materials	22	900	19.8	Purchase by Barton of the WOB autoglazier modules Undertaken in 1998 so no charge in 1997
Travel and accommodation for assessment			0.0	
Total direct delivery			*31.7*	
Administrative services and student services				
Barton overheads @ 18% plus student fees			11.5	
Total Barton costs			43.7	
Employer costs	22	4.63	101.8	Based on two Victorian employers; represents supervision and mentoring time as no time off the job provided
Total Barton and employer costs			145.4	
Per trainee cost estimates				
Total outlay per trainee			6.7	
Barton outlays per trainee *in 1997*			2.0	Not all assessment was undertaken in 1997—costs delayed to 1998
Employer outlays			4.7	
Possible Commonwealth subsidy per trainee ($1250 in training)			1.3	Employers eligible for further payment on completion of traineeship
Approximate possible wage saving due to National Training Wage Award			3.0	The award—relevant to traineeships—assumes, unless otherwise specified, that 20% of time is spent on training and allows lower wage payment
Development costs in 1996 not included above				
Advertising			1.0	
Promotional breakfast			0.5	
Personnel time			2.0	
			3.5	

Retail certificates

Tables 6 and 7 present the revenue and cost estimates for the Esprit Certificate II in retail delivered entirely in the Esprit shops and the Certificate II in Fashion Sales delivered on campus at Torrens Valley TAFE. The Torrens Valley TAFE program is delivered in a large workroom where students in a variety of clothing-related courses take modules at their own pace, assisted by a number of full- and part-time teachers.

It must be remembered that while both programs lead to a level II certificate, they are not exactly the same certificate. The Certificate in Fashion Sales delivered at Torrens Valley TAFE has relatively greater emphasis on clothes-making and fashion design while the Esprit certificate has greater emphasis on sales and service.

Table 6: Certificate II in Retail (Sales and Service), costs and revenues, Esprit, 1997

	Trainees	Release hours	Total hours	Notes
Started training in 1997	56			There is a high rate of turnover in retailing emphasising the need for costing per module or per graduate.
On course June 1997	24	100	2 400	Off-the-job training estimated as two hours per week per trainee for 50 weeks
	Unit	**Rate $**	**Total $'000**	
REVENUES				
Commonwealth trainee subsidy	24	0	0.0	Employees are not trainees under the New Apprenticeship scheme
COSTS				
Esprit National Training Manager			15.0	Estimate of cost of time training and national maintenance of traineeship.
Trainers at Esprit outlets	0.05	768	38.4	Estimate of costs of shop supervisors attributed to weekly training sessions
Holmesglen TAFE for validation		0	0.0	Holmesglen provides this without charge but no certificates issued in 1997
Release time for trainees	2 400	13.7	33.0	
Printing of training packages, equipment hire etc.			17.5	Assume 0.5 of total of $35 098 expended is attributable to 1997 trainees
Total national and branch costs 1997			103.9	
Per trainee estimates				
Total Esprit outlays per trainee			4.3	
Government outlays			0.0	
Development—not included above				
Commonwealth government AVTS grant 1994 to 1996			220.0	Pilot program for development of course in collaboration with Holmesglen TAFE
Launch of program 1997			3.0	

Delivery costs

At face value, the cost of the Esprit workplace program per trainee is higher than the Torrens Valley TAFE program. This finding depends on the valuation of the paid trainee time at Esprit shops and the estimate of the time of the trainers or mentors. Esprit estimated that two hours per week training time was provided to each trainee. The survey of Esprit workplace trainees confirmed that nearly all were receiving training in work time. On average, the trainees who responded to the questionnaire reported that they received more than two hours per week paid training time, although the most commonly reported time was one hour.

Table 7: Certificate II in Fashion Sales, costs and revenues, Torrens Valley TAFE, 1997

	Number	Nominal hours	Total hours	Notes
Trainees	15.5	291	4 500	All candidates part time, estimates apply to whole course of 291 hours; 14 started in 1997 but funding for 15.5
	Unit	**Rate $**	**Total $'000**	
REVENUES				
State funds	4 500	7	31.5	
Service fee @ $63 per trainee per annum	14	63	0.9	
Admin and materials fee @ $1.51 per hour	14	439	6.2	
Equipment kits	14	50	0.7	
Total revenue			39.3	
COSTS				
Direct delivery				
Manager and teachers plus on costs			30.0	
Learning materials etc			4.5	Estimate at $1 per contact hour
Total direct delivery			*34.5*	The teachers surveyed would not separate the task of assessment from the delivery of the modules.
Indirect delivery			0.0	No separate estimate available
Administrative services and student services			7.9	
Property, plant, equipment			0.0	No separate estimate available
Total costs			42.4	
Per trainee estimates				
Outlays per trainee			2.7	
State funds per trainee			2.0	
Commonwealth subsidy to employer			na	
Employer training cost			na	

A further considerable problem with costing the Esprit workplace program is the very high rate of turnover common in the retail industry. Esprit reported an 85 per cent annual turnover of its retail sales staff. Some 54 staff had commenced the Certificate program but only 24 were still on course at the time of the study. Our costing per trainee is based on that number but the need to also undertake costing *per graduate* is clearly indicated.

The costs of both programs lie largely in personnel, although in the case of Torrens Valley TAFE there are costs of materials for some modules. These are mainly financed by student fees. The Torrens Valley TAFE program also includes the institute's administrative and other costs which are not counted in the cost of the Esprit workplace program.

Government funds

The costs at Torrens Valley TAFE are very largely paid for by government funds supplemented by some student fees. For the Esprit workplace program the costs are borne by the company and not by government or the trainee. However, the Esprit program was developed with government funding of $220 000 which was provided under the Australian Vocational Training System pilot program from 1994 to 1996.

The survey of staff at Torrens Valley TAFE asked for an indication of time spent on assessment as distinct from other teaching time. However, all of them were unable, or chose not to, separate the assessment activity from their overall instruction. In the case of Esprit, the main assessment is taken in-house with Holmesglen TAFE validating the procedures before issuing the certificate. At the time of this study, no certificates had been issued as no-one had completed the program.

In contrast with the autoglazier certificate, the Esprit course is not included under the New Apprenticeship scheme so the employer is not eligible for a Commonwealth Government subsidy.

It may be worth noting again, the subsidy to the development of the Esprit program. It can also be noted that all the Esprit trainees are female and all the autoglazier trainees are male.

Summing up the cost findings

Data compiled from a small number of case studies will not allow broad generalisations but they do provide some insights into the components of costs and how they can vary according to alternative forms of delivery.

A first observation is that delivery in the workplace allows for a reduced cost of formal structured tuition. Holmesglen TAFE was able to deliver the hospitality certificate successfully with relatively low government funding because it could substitute time in the workplace for classroom instruction. Its teacher and equipment costs were low compared with the Box Hill program.

On the other hand, if the trainees in the workplace are provided with support from a coach or mentor, there are considerable costs incurred. This was

illustrated in the case of the Autoglazier Certificate. Even in the lower cost example of the Barton TAFE program, the employer costs were estimated as in excess of the funding provided to Barton TAFE by the State training authority for its support for the delivery of the course. It is notable that the *total* estimated costs of the training for the Autoglazier Certificate, which involved a nominal 290 hours, were similar to the estimated *institutional* cost for hospitality courses, with nominal hours of 900 or more.

The total costs of the workplace delivery of the Esprit retail sales program were also estimated as considerably higher than that of the program in fashion sales delivered at Torrens Valley TAFE.

The study did not set out to investigate productivity in the workplace. In the case of the Holmesglen TAFE workplace-based hospitality course, the students contributed unpaid work to the Hilton and RACV Club. It can be assumed that this work helped offset the costs of those companies' contribution to the provision of structured on-the-job training. The companies (and the students) also benefited by being able to use the period of training to assess the students for possible future employment—in some cases employing them in part-time jobs during the period of training.

In the autoglazier case studies the employers believed that the training costs incurred, of which the major one was the time their skilled staff devote to training the newcomer, are justified by the increased productivity of the trainee after a few months. However, it seems very difficult to be precise about the effect of training on output. Dockery et al. (1997) illustrate this. Their detailed analysis of the costs and benefits of apprenticeship showed that for many employers the estimated benefits during the four-year period of the apprenticeship did not match the costs. Yet Dockery et al. report that a global assessment from the employers indicated that most of them believed otherwise: that the benefits did exceed the cost. And it is the employers' perception that is likely to affect their behaviour, not the detailed estimates of economists.

The trainees and students surveyed believed that the courses undertaken improved their productivity and future earnings. The finding was strongest for the WOB workplace trainees where virtually all saw higher income resulting from their training.

There was considerable variation in the government contribution in the cases studied. It reached its highest at Box Hill TAFE where the course is delivered at the TAFE campus. There is an additional cost to government in the case of full-time students. They were eligible for AUSTUDY (Youth Allowance). In our survey a rather low proportion of about 20 per cent of the full-time students reported receiving AUSTUDY.

Esprit received a grant for the development of its training program in earlier years. But it did not receive any government funds to support its training in 1997. It was not eligible to receive a Commonwealth traineeship subsidy for its trainees as they were not engaged in a contract of training as required by a New Apprenticeship.

It is a matter for further investigation whether the high turnover of trainees at Esprit may be reduced if trainees were offered contracts of training such as were available to the autoglazier trainees.

The employers of autoglazier trainees are eligible to receive Commonwealth subsidies for trainees, to employ them at a Training Wage and may also receive some reduction in payroll tax and workers' insurance payment. Windscreens O'Brien received government assistance for the development of its program but reports substantial investment from its own funds in the development phase.

The large costs in developing the modules prior to commencement of delivery in the Esprit and autoglazier cases accord with the finding of the recent ANTA study on the costs of flexible delivery (ANTA 1998).

The analysis of student satisfaction found generally high levels of satisfaction with the different forms of delivery. The one area where some significant differences were noted between programs was in relation to hospitality. As noted, the costs borne by the students were higher at Box Hill TAFE than in the Holmesglen workplace program. The student satisfaction study confirmed this. There was also slightly higher satisfaction with the length of the Holmesglen TAFE program. Holmesglen had arranged to reduce the time to complete the subsequent diploma program by increasing the amount of structured training in the Certificate IV course. Finally, in relation to the Holmesglen program, there was a somewhat higher rate of satisfaction with the teacher's/trainer's knowledge. This finding, while significant, could be the result of the small Holmesglen program having one or two excellent teachers. Alternatively, it could be the result of the students' greater access to professionals in the RACV Club and Hilton workplaces, a real benefit of workplace-based training.

It might be concluded that not only was the Holmesglen program cheaper for government and student, it was also slightly better on some measures of student satisfaction. But it is important to remember the difference in the total enrolments in the two programs: 140 at Box Hill compared with the 40 at Holmesglen. The Holmesglen TAFE workplace-based program cannot be used as a model for very large numbers of students. It is unlikely that sufficient numbers of employers can be found who can offer the appropriate structured work experience for a large enrolment.

Future research on costs

In this chapter the unit of analysis is the number of students or trainees on the program at the time of our study. We have not provided an estimate of *cost per course completed* or *of module completed*, as sufficient data on completions were not available. Estimates of cost per course completed may be considerably different from cost per trainee. They are affected by variation in the time to complete the course and by variation in dropout rate. This is most obvious in the case of the Esprit retail program where no students completed the program in its first year and less than half were still on course after a few months. It is important in future research to attempt to estimate costs for alternative units of analysis such as course completions and enrolments.

Satisfaction

This section of the report describes the satisfaction levels of trainees in workplaces and students in TAFE courses. The measurement of satisfaction was undertaken to provide an outcome criterion in order to judge the benefits accruing to the cost of the training programs.

The data

Data were taken from two sources. The first was from self-completed questionnaires distributed to trainees and students by the various training organisations or companies involved in the study. See appendix 2 for the questionnaire. The second data source was a series of interviews conducted with a small number of trainees and students.

Findings from the questionnaires

The training costs and satisfaction questionnaire was designed to collect information about aspects of the respondents including their:

- sex
- age
- education
- employment history

as well as information about:

- their course or training program
- the importance of the training to them
- what they liked most about the training
- what they liked least about the training
- levels of satisfaction
- other responses to the training program

Each of these aspects of the questionnaire is discussed in this section of the report.

(Respondents were also asked about the cost of their training, but this information is dealt with in another section of the report.)

The questionnaire functioned well as an instrument in that most responses were full and complete. Missing data rates were low.

Background information about the respondents

There were 68 female and 46 male respondents (with one respondent not identifying gender). Their mean age was 21 years (SD=3.2), with a minimum age of 17 and a maximum of 38 years. The modal age was 19 years.

Table 8 shows the highest level of education attained by the respondents. Most (around 60%) had completed Year 12. Given the still high retention rates to the end of Year 12, this group of respondents had probably completed less

education than most of their cohort. As well, only about ten per cent had had previous experience in tertiary education.

Table 8: Highest education level attained before commencing training

	Frequency	%	Valid %	Cumulative %
Left school before Year 12	15	13.0	13.8	13.8
Left school in Year 12	2	1.7	1.8	15.6
Completed Year 12	65	56.5	59.6	75.2
Started but did not complete a TAFE/ Uni course	16	13.9	14.7	89.9
Completed a TAFE/ Uni course	11	9.6	10.1	100.0
Missing	6	5.2	Missing	
	115	**100.0**	**100.0**	

Six months prior to commencing their training, just under 60 per cent of respondents had been in employment, nearly 55 per cent had been studying and only six per cent had been neither employed nor studying. Therefore, most had experienced some kind of engagement with post-school, or school-to-work transition activities. Of those reporting that they had been working, 45 (65%) reported a sales and personal service-type occupation. (Major Group 6 in the Australian Standard Classification of Occupations [ABS 1986]) Of those currently working (n=89, about 75%), about 60 per cent had a sales and personal service-type occupation. Interestingly, 23 (about 25%) reported that they were working as a tradesperson (Major Group 4 in the Australian Standard Classification of Occupations [ABS 1985]).

This information points to a group of respondents who have had reasonable experience in the world of work and with training or post-school education. They should therefore, be seen as being in a good position to make judgements about the quality of, and their satisfaction with, their training program.

About their course or training program

Over 80 per cent of respondents were undertaking their training or course of study full time. Table 9 shows the distribution of respondents across participating organisations. The low number of respondents from Barton limits the usefulness of these data for the automotive industry component of the study. The low number of respondents from Torrens Valley is also a concern. However, because of the way in which that course is run, increasing the number of respondents was too labour- and time-intensive (see the discussion on the limitations of the study).

Table 9 can also be used to show that 20 per cent of respondents were training for the fashion retail industry, 60 per cent were training for the hospitality industry and 20 per cent were training for windscreen fitting in the

automotive industry. This table also shows that 66 per cent of respondents were training in the workplace and just over 33 per cent were training at a TAFE institute.

Table 9: Number and proportion of respondents from each participating organisation

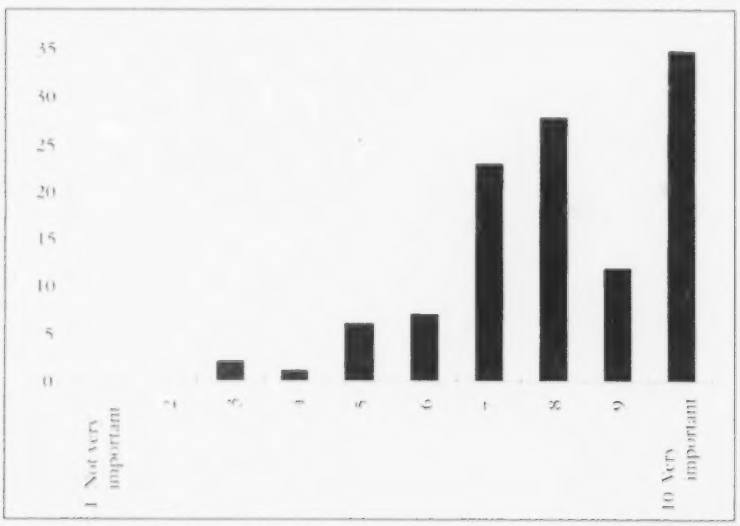
	Frequency	Per cent
RACV (Hospitality)	36	31.3
Box Hill TAFE (Hospitality)	33	28.7
Esprit (Fashion retail)	18	15.7
Torrens Valley TAFE (Fashion retail)	5	4.3
Barton TAFE (Automotive)	1	.9
Windscreens O'Brien (Automotive)	22	19.1
	115	**100.0**

Importance of the training

It was necessary to know how important the training was to the respondents in order to be confident that the judgements they made about their levels of satisfaction arose from a genuine concern about, and commitment to, their training.

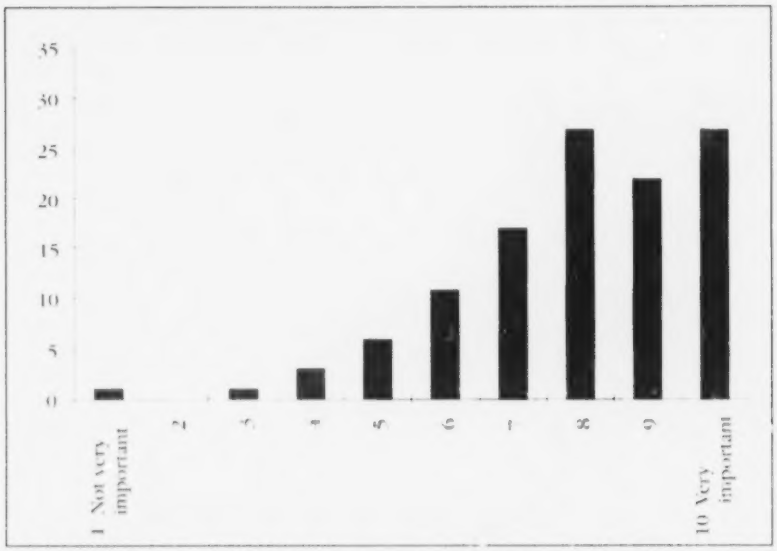
Figures 4 and 5 show the distribution of responses to items asking about the importance of the training program before commencement and at the time of completing the questionnaire. It will be observed that at both time periods the training program was of high to very high importance for nearly all respondents. The mean value response seen in figure 4 was 8.1 and for figure 5 it was 8.0. On this evidence, the training they were receiving was very important to these respondents.

Figure 4: Distribution of responses to question 12



Think back to just before you commenced your current training program, how important did this program seem to you in helping you reach your goals? (n=115)

Figure 5: Distribution of responses to question 31



How important now is the training program for meeting your goals? (n=115)

Workplace-based trainees had a mean score of 7.9 (SD=1.8) and TAFE students had a mean score 8.5 (SD=1.5) on the measure of importance of the course before the commencement of their training. This is not a statistically significant difference (P=.11). Workplace-based trainees had a mean score of 7.7 (SD=1.9) and TAFE students had a mean score 8.5 (SD=1.5) on the measure of importance of the course when completing the questionnaire. This is a statistically significant difference (P=.03). This difference may have arisen because the TAFE students were looking to use their qualifications to gain access to the world of work whereas the other group of respondents had already accessed that world.

What was liked most

Respondents were asked to describe what they liked most about their training program. Table 10 shows that for the first response written, the practical, on-the-job aspect of the training was most often reported as being liked most by the respondents.

A breakdown of these responses by industry showed that 50 per cent of the trainees in hospitality nominated the on-the-job category as that most liked, whereas about 30 per cent of fashion industry and 25 per cent of automotive industry respondents nominated this category. For the trainees in the fashion industry around 40 per cent nominated the flexibility of the training. The range of responses from the automotive industry was wide, with the on-the-job component being the most commonly nominated category.

A breakdown of these responses by mode of training (TAFE versus workplace-based) showed that 50 per cent of workplace-based respondents nominated the on-the-job practicality of their training as the most liked aspect of it.

Table 10: Distribution of responses to the question: What do you like most about your training program?

	Frequency	%	Valid %
Practical, on-the-job	44	38.3	41.5
Flexible	12	10.4	11.3
Interesting	10	8.7	9.4
Teachers are good	9	7.8	8.5
Specific units/subjects liked	9	7.8	8.5
Positive in general	8	7.0	7.5
Social aspects	4	3.5	3.8
Good facilities	1	.9	.9
Other	7	6.1	6.6
Missing	11	9.6	Missing
	115	**100.0**	**100.0**

Respondents from the TAFE sector also most often nominated this category (but this represented only around 25% of total responses). TAFE students also reported that they found the course interesting (about 20% compared with 5% of the workplace respondents) and that they liked the teaching (15% compared with 5% of the workplace respondents).

What was liked least

Respondents were also asked to describe what they disliked most about their training program. Table 11 shows that most frequently cited as the least liked aspect of the training was the amount of work required. It should be noted that this was not always to say that there was too much work. Some respondents felt that they were not being challenged enough, and wished, particularly in the early stages of the course, to have more work. Typically, this response came from mature-aged students.

When broken down by industry, 35 per cent of those training in the fashion industry complained of the amount of time needed to complete the training. In hospitality, around 40 per cent referred to the amount of work. In automotive, there was no one category which attracted more responses than another. It is interesting to note that around 25 per cent of respondents did not provide any data for this item. This is atypical, suggesting that perhaps for these students, there were few dislikes to report.

About 25 per cent of workplace respondents and 30 per cent of TAFE students nominated the amount of work as the most disliked aspect of their training. Around 15 per cent of workplace trainees disliked the amount of time, compared with none from TAFE institutes.

Table 11: Distribution of responses to the question: What do you dislike most about your training program?

	Frequency	%	Valid %
Amount of work	25	21.7	28.4
Location	10	8.7	11.4
Time to complete	7	6.1	8.0
Timetabling	6	5.2	6.8
Amount of written work	4	3.5	4.5
Facilities	3	2.6	3.4
Materials	3	2.6	3.4
Teaching	2	1.7	2.3
Administration	2	1.7	2.3
Negative in general	2	1.7	2.3
No choice of subjects/units	2	1.7	2.3
Standards too low	1	.9	1.1
Class size	1	.9	1.1
Specific subjects/units	5	4.3	5.7
Other	15	13.0	17.0
Missing	27	23.5	Missing
	115	**100.0**	**100.0**

Levels of satisfaction

It is against this background of information of the specific likes and dislikes of the respondents that the levels of satisfaction with the courses are described. In general, high levels of satisfaction were recorded by respondents but this should not obscure some of the discontentment registered.

The purpose of measuring the satisfaction levels was to establish an outcome measure by which to judge the quality of the courses on offer.

It was intended to match this to costs as a way of determining an estimate of how well the dollars being spent on training were being used. As the analysis which follows shows, there was in fact, with this group of respondents, very little difference between industries or, more importantly, between training program types (TAFE-based versus workplace-based training).

It had been planned to factor-analyse all 'satisfaction' items to construct a set of sub-scales, to calculate scores on these sub-scales and then to make comparisons between industries and mode of training. A principal components' analysis was conducted of questions 13 to 18, and 21 to 26 (see appendix 2).

This process produced a two-factor solution which was unsatisfactory since only two of the 12 items loaded uniquely on this factor, while a considerable number loaded on both items. With this result, it was decided that the 12 items were probably tapping one dimension, which could be described as 'satisfaction'. While it would be possible to construct a summary score using these items, it was decided that it would be useful and provide a clearer picture, if each of the items was examined separately. This was done.

An examination of table 12 shows that apart from the item asking about the dollar cost of the training, there were no significant differences between the two groups of respondents. The lowest level of satisfaction for both groups was the time (scheduling) of classes. The highest for the workplace-based trainees was the trainers' knowledge, and for the TAFE students it was usefulness of the program for improving their job prospects. Generally, on most items, the average response indicated a high level of satisfaction with the courses being undertaken.

Because of the low numbers of cases for two of the groups—TAFE fashion retail and TAFE automotive—it was not possible to conduct any more sophisticated analyses upon these data. However, it was possible to contrast the two types of training offered within the hospitality industry (see table 13).

Table 13 shows that there were only a few significant differences between levels of satisfaction between those training at the RACV (workplace-based) and those at the Box Hill Institute of TAFE.

Typically, the TAFE students have lower levels of satisfaction than the workplace-based trainees. However, there is only a statistically significant difference between them on three items:

- satisfaction with teacher(s)/trainer(s) knowledge
- satisfaction with length of the training
- satisfaction with the dollar cost of the training program

Of these three, the most striking difference is to be seen in levels of satisfaction with the knowledge of the teachers and trainers, with those respondents based in the workplace being much more satisfied, on average than the TAFE-based students.

Table 12: Summary of the satisfaction items showing mean scores for respondents from workplace training and TAFE courses

Item	Mean score workplace	Mean score TAFE	Significant difference?*
Q13 Overall, how satisfied are you with your training program now?	7.3	7.5	no
Q14 Overall, how satisfied are you with your teacher(s)/trainer(s) knowledge during your training?	8.4	8.0	no

Table 12: Summary of the satisfaction items showing mean scores for respondents from workplace training and TAFE courses (cont.)

Item	Mean score workplace	Mean score TAFE	Significant difference?*
Q15 Overall, how satisfied are you with the presentation of training materials?	8.0	7.6	no
Q16 How satisfied are you with the physical environment of your training?	7.6	7.2	no
Q17 How satisfied are you with the way your training program is organised?	7.1	6.7	no
Q18 How satisfied are you with the usefulness of your training program for improving your job prospects?	8.1	8.1	no
Q21 Overall, how satisfied are you with the balance between instruction and practical application . . . ?	7.8	7.1	no
Q22 If you attend classes for training program, how satisfied are you with the location of these classes? (n=75)	6.8	7.0	no
Q23 Overall, how satisfied are you with the class times of this course?	6.7	5.9	no
Q24 Overall, how satisfied are you with the quality of your training program?	7.8	8.1	no
Q25 Overall, how satisfied are you with the length of the training program?	8.0	7.4	no
Q26 Overall, how satisfied are you with the dollar cost (to you) of the training program?	7.7	6.8	yes .05

*Criterion for statistical significance=0.05. Note that, as these samples were not randomly drawn, these and other measures of statistical significance reported elsewhere, should be treated only as a rough guide.

Table 13: Summary of the satisfaction items showing mean scores for respondents training in the hospitality industry

Item	Mean score RACV	Mean score Box Hill	Significant difference?*
Q13 Overall, how satisfied are you with your training program now?	7.5	7.4	no
Q14 Overall, how satisfied are you with your teacher(s)/trainer(s) knowledge during your training?	8.7	7.8	yes 0.02
Q15 Overall, how satisfied are you with the presentation of training materials?	7.9	7.4	no
Q16 How satisfied are you with the physical environment of your training?	7.3	6.9	no
Q17 How satisfied are you with the way your training program is organised?	7.0	6.3	no
Q18 How satisfied are you with the usefulness of your training program for improving your job prospects?	8.5	8.1	no
Q21 Overall, how satisfied are you with the balance between instruction and practical application . . . ?	7.5	6.9	no
Q22 If you attend classes for training program, how satisfied are you with the location of these classes? (n=75)	6.8	6.7	no
Q23 Overall, how satisfied are you with the class times of this course?	6.4	5.5	no
Q24 Overall, how satisfied are you with the quality of your training program?	7.9	7.9	no
Q25 Overall, how satisfied are you with the length of the training program?	8.1	7.2	yes 0.04
Q26 Overall, how satisfied are you with the dollar cost (to you) of the training program?	7.4	6.5	yes 0.05

*Criterion for statistical significance=0.05. Note that, as these samples were not randomly drawn, these and other measures of statistical significance reported elsewhere, should be treated only as a rough guide.

Other responses to the training program

Respondents were asked about how well their training had met their expectations. The mean score for workplace-based trainees was 7.5 and for TAFE students it was 7.8. This is not a statistically significant difference. Both groups seem, on average, to see their training as meeting their expectations rather well. This item was also examined for those training for the hospitality industry only. For those at the RACV Club, the mean was 7.4 compared with the 7.5 for the Box Hill students. This is not a statistically significant difference.

Respondents were also asked how well they thought that their training program was regarded by employers. The workplace trainees' mean score was 8.3 as was the mean score of the TAFE students. Both groups were, on average, of the view that the training was well regarded by employers. There was not a statistically significant difference between RACV Club trainees and Box Hill students on this item. (The mean scores for both groups was 8.1.)

The respondents were asked how well their training program had met their specific needs. The mean score for the workplace-based trainees was 7.4 and for the TAFE students it was 7.6. This difference was not statistically significant. Both groups seem to have had their specific needs well met. An examination of the Box Hill TAFE student and the RACV Club trainee responses showed no statistical difference between these items. (The mean score for the Box Hill students was 7.3 compared with the RACV Club mean of 7.5.)

The data taken from the training costs and satisfaction questionnaire suggests that irrespective of how students are being trained—whether in a workplace or in a TAFE institute—levels of satisfaction are consistently high, with few differences between the two groups. TAFE students were on average less satisfied with the cost of their training than were the other trainees. Given that they pay fees and may have other costs, and that the trainees do not have these costs, such a difference should probably not be very surprising.

Where it was possible to examine differences within an industry—in this case, the hospitality industry—more differences between levels of satisfaction were found with workplace-based trainees being more satisfied than TAFE students, particularly in terms of the knowledge of their trainers or teachers, the length of the training and the dollar cost of the training.

The interviews

Interviews were conducted with students and trainees from each of the six strata in the study. There were three interviews conducted with students from Torrens Valley TAFE (Fashion Retail); three interviews with trainees from Esprit; three interviews with RACV Club (hospitality industry) trainees; one interview with a student from the Box Hill TAFE hospitality course; three interviews with trainees from Windscreens O'Brien; and two interviews with windscreen fitter students from Barton TAFE. Thus, a total of 15 interviews were conducted.

The interviewees were selected by the participating organisations. Sometimes the students or trainees selected were those who were perceived by the organisation to be the most capable, and at other times interviewees presented with what seemed to be a range of abilities. All those interviewed were very positive about their training, and all were satisfied with the quality of their courses or traineeships.

These interviews were audio-taped, transcribed then analysed. The analysis was conducted using the facilities of the computer application called NUD*IST (a package designed to facilitate the coding and retrieval of qualitative data).

The objective in conducting the interviews with trainees and students was to acquire additional information to fill gaps or raise and answer questions not addressed in the questionnaire. The interviews were conducted as conversations which addressed the experience of the training or TAFE course. They were not structured, but covered broad areas including:

- how the interviewees found out about their course or traineeship
- what they liked about their training
- what they disliked about their training
- how they expected the training would help them
- how satisfied they were with their training

Each of these aspects of the interviews is briefly described below.

How courses or traineeships were found

There was a variety of routes to training described by the interviewees. Networks were sometimes the source of information:

> *What happened was that a friend of the family said there was a job on offer and do you want to come in and do it? So I said 'Yes', because I was unemployed at the time so I came in. After about two months they said there was a traineeship behind it and I had to do certain modules and so that's how I got it.*

Six interviewees found out about their course of training in newspapers or via the Commonwealth Employment Service. For one interviewee it was a combination of factors:

> *It was advertised in the paper as a trainee windscreen fitter and I knew a bloke here and I got the job.*

For another, good luck and some family history in the industry helped:

> *They don't actually work in industry, but my grandfather was a chef and my uncle has a very keen interest in it although* [he] *doesn't work in it and through my parents' friends, they had connections that were hospitality-related and so I decided* [then] *with the VTAC* [Victorian Tertiary Admissions Centre] *guide . . . I stumbled across the Diploma of Hospitality Management and I applied . . .*

For one, mature-aged interviewee, the process was carefully thought through and widely researched. She said:

> *I did a lot of research because I wanted to get into it* [the industry] *as full-time work, so I didn't want to come into something that I wasn't going to be fully happy*

with or half-hearted [about]. *So I did a lot of checking around at private colleges as well and also a lot of the TAFEs. The reason I chose Box Hill was because it's handy for me at home and the price is fine, it works out to be the same course as anywhere else anyway, and it had a good reputation.*

All interviewees from Esprit found out about the training from their managers.

Thus, the routes into training were various, except for the Esprit interviewees who were supplied information by the company.

What was liked about the training

For the Esprit interviewees, it was the ease of translating what was being learned into a work context. It helped to solve work-related problems. As one interviewee said:

> *. . . it's taught me how to deal with situations in retail that I may never have thought about unless I was confronted with them.*

Another Esprit trainee noted:

> *. . . putting into practice what you're learning. I mean, if I was stuck in a classroom learning what I'm learning, I'd think, 'What's the point of this?' . . . I think it's best* [to] *go out and see how it works and you get a lot more understanding* [of] *what's actually happening.*

Indeed, for all the trainees who were interviewed, the hands-on aspect of their traineeship was the major feature which attracted them. This is a finding consistent with the data from the questionnaires. Some further comments included:

> *. . . it's about being out there and doing it in real life . . . I know what the hours are like, I know that you have to be on your feet eight hours a day and it's been a big preparation for when I do enter into a career.* (RACV Club trainee)

> *It was a good training experience. When it's on hand . . . and you're with the fitter all the time it's good. You can read it in your modules . . . but it's better when you're on hand and actually doing it.* (Windscreens O'Brien trainee)

For some, this was the only way to learn:

> *I don't believe in theory, you just learn everything out in the shop. I'd rather some guy showing me than reading a book.* (Windscreens O'Brien trainee)

For another, it offered an excellent opportunity to learn how varied solutions to problems can be:

> *The good thing is, everyone's got a different method of fitting a window, so just by being on the job all the time, going out with these guys all the time you get to see different ways and in the end it's up to you which way is the best.* (Windscreens O'Brien trainee)

But others looked for more integration between theory and practice and saw the traineeships as doing this well. One, for example noted:

> *Training with an actual fitter was good, going out with him all the time. With the modules that we did, you could go to him for help and work with him through the modules, which was good. I had to get to level 2 and I went through the whole thing with him.* (Windscreens O'Brien trainee)

Another also observed:

> *The modules helped, I did them all in my own time on my own. I had done a lot of the practical work before I hit the theory so I had a better understanding than doing it the opposite way.* (Windscreens O'Brien trainee)

Qualifications were also seen as important. As one Esprit trainee said:

> *. . . it's sort of like the light at the end of the tunnel, it's like something that will be recognised.*

Encouragingly, the knowledge on offer from the trainers was also seen as being valuable and important. But equally important was the quality of the interaction between the student and the teacher. The Torrens Valley TAFE students talked about this:

> *They* [the teachers] *are very good. If you ask a question, they are willing to help you. . . They don't just let you sit there for hours and hours to think about what you are doing . . . if they see you dazing into 'nodland' they ask if you are all right.*

One of the Barton interviewees was very positive. He said:

> *Getting taught by Peter, I think he's the best in Australia—A1 quality.*

The interviews reinforce the findings from the questionnaires, in that it is clearly the practical focus of the training which is most liked by both trainees and students. All interviewees from both groups—those in training in the workplace, and those in TAFE—reiterated how important this aspect was to them. For them, it was through practical learning that theory could come to be understood, appreciated and applied in the future.

What was disliked about the training

There were some concerns expressed about the modules used by the trainees. For example, a Barton trainee complained:

> *I was surprised how little the first modules related to fitting—there wasn't a practical relationship to the job.*
>
> *The sort of jobs we do are more technical—leading edge of the exotic stuff. The traineeship is not adequate for what we do . . . there's not a lot that really applies to us. When you're working on something like the Diabolo Special* [a very expensive sports car] *you can't afford to make mistakes—damage a car like that—so you really need to know what you're doing.*

This worry about the standard of the course was also expressed by the student from Box Hill. She said:

> *I think the first year content wasn't that difficult. I'm not sure from the point of view of the younger students but because I've been out in the workforce and I knew a lot more things and already had a fair amount of experience in hospitality there was a lot of things I already knew . . .*

And there was also anxiety about the level of commitment of some of the trainers. One interviewee noted:

> *I think one thing that can be a little bit . . . more focussed on, is the actual trainers being a little more prepared because . . . I don't think they're as prepared as they should be . . . I'm not sure how seriously they're taking it.*

There were also concerns about the organisation of the training. At Box Hill the student experienced particular problems with timetables.

> *The problem I had was starting mid-year, there wasn't a lot of students starting mid-year, there was a few problems in the beginning with classes and timetables. I don't think they'd organised that properly to start with, so for about the first month it was a bit messy.*

One of the TAFE students complained about the low level of involvement with, and knowledge of, the fashion retail course by industry. She said:

> *When I first started the course I had an expectation that industry was involved with it but then during the course I felt that they weren't because . . . I thought there would be people out in the industry coming to TAFE looking for people who had been trained in this area but I haven't seen this happening at all. I think that the certificate should be more recognised in the industry or the industry should be made more aware of it.*

Similar sentiments were expressed by one of the windscreen fitting trainees:

> *At the moment if I was to go to a job somewhere else it would be more* [the] *practical experience than a bit of paper. At the moment* [when] *you see jobs advertised for fitters they're not saying accreditation required, just experience.*

And, of course, there were complaints about how hard the work was:

> *. . . you are under a lot of pressure to complete assignments, do on-the-job training and, if you have a casual job too, it is very hard to try and fit every thing in and work it out.* (RACV trainee)

and, again, from another respondent:

> *I found that practical side of it gets a bit tiring when you do the two weeks, eight hours a day.* (RACV trainee)

There was little evidence of any systematic differences between the TAFE students and the workplace trainees in the range or nature of their dislikes. Consistent, again, with the findings taken from the questionnaire was the central importance of the learning being done in a practical setting. Anything which obstructed this process was disliked. It is not clear just how much credence should be given to concerns about how 'hard' the courses of training are to complete given the high levels of satisfaction expressed by respondents to the questionnaires, and, as will be seen below, by the interviewees as well.

How the training was expected to help

Interviewees were asked to comment on how their training had been or was likely to be helpful to them. Some respondents referred to specific aspects of their training, for example, undertaking the module on occupational health and safety. Others referred to enhanced career opportunities, commenting on the opportunity given to demonstrate to their employers that they were serious about their work. An Esprit trainee also described how it had led to increased responsibility for her:

> *. . . because I'm the only one in the store who's doing the certificate, I find that my role is to teach the other people, my other colleagues, what I've been learning . . .*

Another Esprit trainee outlined some apparently unanticipated benefits. She noted:

> *It's taught me a lot more than just about the industry. It's taught me how to put myself on deadlines and taught myself it's basically up to me, where I want to go and how far I want to take this course.*

The rewards of achievement are more obvious too:

> [I] *constantly see results, the only results you see in university are . . . grades. That's the only results you ever see. You don't ever have anyone come up to you and say, 'Gee you handled that situation very well!' . . . this way you're constantly seeing results and you're constantly getting feedback and it really lifts you up and it really gets your self confidence . . .*

There was widespread consensus among all the interviewees about the pace at which they could complete their training. In short, where they could set the pace, the trainees liked their training.

Satisfaction with training

The point of the interviews with the trainees and students was to get an insight into levels of satisfaction and the factors that might be associated with that satisfaction. The interviewees reported high levels of satisfaction with their training, a result consistent with the findings of the questionnaires. Satisfaction was related to those factors already discussed: the pace of the course, its on-the-job practicality, the tangibility of rewards, and its perceived and immediate relevance to the trainees themselves or to their planned careers.

Conclusion

This project relied on a case-study approach to tackle the question of the comparative costs of accredited training in TAFE institutes and workplaces. This seemingly simple issue has proved, in practice, very difficult to resolve because of:

- the complex institutional settings in which courses and training are embedded, making identifying or proportioning institutional costs difficult
- the lack of direct comparability between the contents and outcomes of courses in TAFE institutes and workplaces
- the difficulty of generalising to the population of all courses because of peculiar local conditions and institutional arrangements

To help overcome these problems, it was decided to select key industries or courses which were seen as supplying training for key industries. Judgement of what constitutes a key industry is, of course, itself fraught with difficulty. For this study, the retail industry, because of the large numbers of young employees, and the relatively recent uptake of training in parts of this sector, was judged as important. The global boom in tourism at the time the study was being planned and the consequent expansion of the hospitality industry in Australia, coupled with a high demand for trained personnel, suggested that this was also an important sector to include.

The automotive industry contributes significantly to the wealth of Australia and is therefore crucial to the Australian economy. However, since it is also an industry which has already been well researched, this study focussed less on the manufacturing and more on the service side of the industry. The decisions relating to which industries to include were also shaped by practical considerations such as finding courses in TAFE and examples of workplace-based training which were equivalent in content and level. Thus it was that the six case studies were undertaken. These were:

- Retail: Esprit Pty Ltd and Torrens Valley Institute of TAFE
- Hospitality: Holmesglen Institute of TAFE program at the RACV Club and the Box Hill Institute of TAFE on-campus program
- Automotive: Windscreens O'Brien and the Barton Institute of TAFE

There were two important aspects to the research. The first was the relative costs of the training and the second was the level of satisfaction of the students or trainees with their training.

Costs

Since the cost findings were based on data compiled from a small number of case studies, it is not possible to make generalisations. But they do provide a

number of insights into the components of costs and how they can vary with alternative forms of delivery.

The unit of analysis used was the number of students or trainees on the program at the time of the study. It is important in future research to attempt to estimate costs for alternative units of analysis such as module and course completions as well as for enrolments. Estimates of cost *per course completed* vary according to the time taken to complete the course and by the rate of dropout.

This was most obvious in the case of the Esprit retail program where, consistent with the high staff turnover characteristic of the retail industry, many trainees had left Esprit's employ.

The study identified differences in the total cost per student, but the main conclusions relate to components of the costs and to who bears the costs.

Delivery in the workplace allows for a reduced cost of formal structured tuition

Access to the professional staff and specialist facilities in the workplace reduces the extent and cost of formal classroom instruction. For example, Holmesglen TAFE would not have been able to deliver its hospitality certificate effectively on the funds available had it not been able to undertake the training in the workplace with very low cost access to professional staff and specialist facilities.

Where trainees in the workplace are provided with support from a coach or mentor then considerable costs are incurred

This was illustrated in the case of the autoglazier certificate. Even in the lower cost example, the Barton TAFE program, the employer costs were estimated as well in excess of the funding provided to Barton by the State training authority for the delivery of the course. The estimated total cost of retail training delivered in the workplace by Esprit was also in excess of the cost of the fashion sales program delivered by Torrens Valley TAFE.

The trainees and students in workplace-based programs contributed to the production of their enterprises

The Holmesglen students contributed unpaid work to the Hilton Hotel and RACV Club. This work may at least partly offset the costs of those companies' contribution to the provision of structured on-the-job training. The companies (and the students) also benefited by being able to use the period of training to assess the students for possible future employment. In the autoglazier case studies, the employers interviewed believed that the training costs incurred were justified by the increased productivity of the trainees after a few months. Trainees and students surveyed believed that the courses undertaken improved their productivity and future earnings.

There was considerable variation in the government contribution in the cases studied

Government funding was at its highest for the full-time hospitality program at Box Hill TAFE where the course was delivered on-campus. It was relatively low where training was delivered in the workplace. Esprit did not receive any government funds to support its workplace training in 1997, although it had received a large grant for the development of its training program in earlier years. Esprit was not eligible to receive a Commonwealth traineeship subsidy for its trainees as they were not engaged in a contract of training accepted as a New Apprenticeship. Windscreens O'Brien and other employers of autoglazier trainees were eligible to receive the Commonwealth subsidy for trainees (and some employers receive reductions in payroll tax and workers' insurance payment). They could also be eligible to pay a lower wage to trainees under the National Training Wage Award. Windscreens O'Brien had received government assistance in earlier years for the development of its program, but it also reported substantial investment from its own funds in the development phase.

The Holmesglen TAFE workplace-based hospitality program may not readily be used as a model for very large numbers of students

It is unlikely that sufficient numbers of employers can be found who are in a position to offer the appropriate structured work experience and specialised equipment for a large enrolment. The Holmesglen workplace-based program was cheaper for the government and cheaper for the students than the Box Hill TAFE program. On some aspects of student satisfaction it ranked above the Box Hill program. This may have been the result of the students' greater access to experienced staff and managers and specialist equipment in the RACV Club and Hilton workplaces, a likely benefit of workplace-based training. But it may prove difficult to provide similar access for large groups of students.

Satisfaction

Assessing satisfaction was important because it provided a criterion for judging the adequacy of the training. In short, if a mode of training was found to be cheaper, but the students or trainees found their experience to be poor, the implications of cost savings associated with such training would need to be weighed against this outcome. Satisfaction was used as a criterion because it:

- captures a wide range of different types of likely responses
- is readily understandable
- is an important outcome of any training

In reviewing the literature on student satisfaction within the Australian vocational education and training sector, we could find no discussion of a theoretical construct to guide the development of satisfaction questionnaires. Like many performance measuring 'fads' there were discussions about technique, but no general understanding of the meaning or derivation of the concept.

It was therefore necessary to derive a theoretical framework on student satisfaction from other literature. This framework was based on customer satisfaction concepts from the fields of consumer and market research, and student satisfaction and dropout research from education. The framework was used to develop a satisfaction questionnaire.

Overall, the study did not demonstrate much difference in levels of student or trainee satisfaction. There was no evidence that there was variation in satisfaction associated with the cost of courses.

The main findings of the satisfaction survey are summarised below.

Generally, there was a high level of satisfaction with courses being undertaken

Overall, students in TAFE institutes and trainees in workplace settings were all very satisfied with their training. This evidence was consistent across the questionnaire and interview data. It was not possible to know to what extent this high level of satisfaction was genuine. It may have arisen from a reluctance to acknowledge the possibility of a mistake in choosing the type of training being undertaken. It might also have been that only those who were satisfied with their training responded to the questionnaires or made themselves available for interview. On the basis of the data collected, however, it seems that students and trainees adapt to the demands of either type of learning environment, or alternatively, that they self-select into learning environments which they find satisfying.

There was very little difference in satisfaction levels between industries or delivery modes

While the findings concerning satisfaction were pleasing from the perspective of the providers, they did not help this study because there was so little variance between industries and between modes of training.

TAFE students were, on average less satisfied with their course than workplace trainees

While TAFE students were, on average, less satisfied about the cost of their training than were workplace-based trainees, such a finding is not surprising as TAFE students in the courses examined had to pay fees (and some had other costs associated with their course). The workplace trainees paid no fees.

Lowest levels of satisfaction related to scheduling of classes

Lowest levels of satisfaction for both TAFE students and workplace-based trainees related to the time (scheduling) of their classes. It should be noted, however, that these levels of satisfaction were nevertheless not especially low.

Highest levels of satisfaction related to expertise of trainers and improved job prospects

Highest levels of satisfaction for the work-based trainees related to the perceived knowledge and expertise of their trainers. For TAFE students it was the perceived usefulness of the program in improving their job prospects which was associated with the highest satisfaction levels.

Practical application of learning was highly valued

Both groups were very satisfied with the way in which their learning took place in a practical or applied setting.

References

ABS (Australian Bureau of Statistics) 1995a, 'Australian standard tourism activities classification', an ABS discussion paper, Canberra.

—— —— 1995b, *1995 graduate outcomes, technical and further education, Australia*, a report to the Australian Committee on Vocational Education and Training Statistics, AGPS, Canberra.

—— —— 1986, *Australian Standard Classification of Occupations (ASCO)*, 1st edn, ABS, Canberra.

—— —— 1998a, *Australian economic indicators*, November, ABS, Canberra.

—— —— 1998b, *1998 yearbook Australia*, ABS, Canberra.

Adler, J 1995, 'Action based system to maintain customer loyalty', ESOMAR, 48th Marketing Research Congress, The Hague, ESOMAR.

Allen Consulting Group 1994, *Successful reform: Competitive skills for Australians and Australian enterprises*, ANTA, Brisbane.

Anderson, D 1996, *Reading the market*, Centre for the Economics of Education and Training, Monash University–ACER, Clayton, Victoria.

ANTA (Australian National Training Authority) 1998, *Flexible delivery: Resource allocation models (Stage 2)*, project report, ANTA, Brisbane.

Astin, A 1975, *Preventing students from dropping out*, Jossey-Bass, San Francisco.

—— —— 1976, *Academic gamesmanship: Student oriented change in higher education*, Praeger, New York.

—— ——1993, *What matters in college? Four critical years revisited*, Jossey-Bass, San Francisco.

Billett, S 1993, 'Authenticity and a culture of work practice', *Australian and New Zealand Journal of Vocational Education Research*, vol.2, no.1, pp.1–29.

—— —— 1994, 'Searching for authenticity—a sociocultural perspective of vocational skill development', *Vocational Aspects of Education*, vol.46, no.1, pp.3–16.

—— —— 1996, 'Understanding workplace learning: Cognitive and socio-cultural perspectives', paper presented at VET Research Colloquium, University of Technology Sydney, July.

Borden, V 1995 'Segmenting student markets with a student satisfaction and priorities survey', *Research in Higher Education*, vol.36, no.1, pp.73–88.

Boshier, R 1983, 'Adult learning projects research: An alchemist's fantasy?', invited address to the American Educational Research Association, in Brookfield, SD 1984, 'Self directed learning: A critical paradigm', *Adult Education Quarterly*, vol.35, no.2.

Briendel, M 1995, *Gap analysis: Student satisfaction survey, Spring 1995*, Palm College of the Desert, Office of Institutional Research, Desert, California, Educational Resources Information Centre ED396 807.

Bureau of Tourism Research 1996, *Tourism indicators*, Commonwealth Department of Tourism, Canberra.

Burke, G, McKenzie, P, Maglen, L, Selby Smith, C, Ferrier, F, & Selby Smith, J 1994, *Economics of vocational education and training in Australia: A review of recent literature*, occasional paper 94/2, ANTA, Brisbane.

David Hides Consulting Group 1995, *TAFE student satisfaction survey—1995*, Western Australian Department of Training, Western Australia.

Dawe, S 1993, *A preliminary report of the pilot 1993 national client follow-up survey of vocational education graduates*, NCVER, Adelaide.

Dawkins, J 1988, *Industry training in Australia: The need for change*, AGPS, Canberra.

Dockery, A, Koshy, P, Stromback, T & Eying, W 1997, *The cost of training apprentices in Australian firms*, discussion paper 97/3, Centre for Labour Market Research, Perth.

Dusseldorp Skills Forum 1995, *Costing school vocational courses, TRAC and non-TRAC delivery modes compared*, Dusseldorp Skills Forum, Sydney.

Entwistle, N & Wilson, J 1977, *Degrees of excellence: The academic achievement game*, Hodder and Stoughton, London.

Foley, K, Barton, R, et al. 1997, *Quality, productivity and competitiveness. The role of quality in Australia's social and economic development*, Standards Australia, Strathfield, New South Wales.

Forbes, R 1996, 'Upward feedback: A new power for the learning organisation', *HR Monthly*, November.

Fornell, C, Johnson, M, et al. 1996, 'The American customer satisfaction index: Nature, purpose and findings', *Journal of Marketing*, vol.60, (October 1996), pp.7–18.

Franklin, K 1995, *Hierarchical confirmatory factor analysis of a student satisfaction survey*, East Tennessee State University, Educational Resources Information Centre ED388 694.

—— —— & Shemwell, D 1995, 'Disconfirmation theory: An approach to student satisfaction assessment in higher education', annual meeting of the Mid-South Educational Research Association, Biloxi, MS, November, 1995, Educational Resources Information Centre ED388 199.

Funnell, B & Ainsworth, P 1996, *Learning in the workplace: Tourism and hospitality*, ed. John Stevenson, Griffith University, Brisbane.

Hager, P 1997, *Learning in the workplace*, Review of Research series, NCVER, Adelaide.

Hanushek E 1995, 'Education production functions', in *International Encyclopedia of Economics of Education*, ed. M Carnoy, Pergamon, Cambridge, pp.277–82.

Hayton, G 1988, 'The cost of equipment for training', *Australian Journal of TAFE Research and Development*, vol.3, no.2, pp.57–69.

Hayton, G et al. 1996, *Final report: Enterprise training in Australia*, OTFE, Melbourne.

Heylen, J, Dawson, B, et al. 1995, 'An implicit model of consumer behaviour', *Journal of the Market Research Society*, vol.37, (1 January), pp.51–67.

Jeffery, D 1992, *Work-based learning: A guide to workplace delivery of accredited training*, Victorian Education Foundation, Melbourne.

Johnson, M, Anderson, E, et al. 1995, 'Rational and adaptive performance expectations in a customer satisfaction framework', *Journal of Consumer Research*, vol.21, (March 1995), pp.695–707.

Jones, T & Sasser, W 1995, 'Why satisfied customers defect', *Harvard Business Review*, (November/December 1995), pp.88–99.

Kekre, S, Krishnan, M, et al. 1995, 'Drivers of customer satisfaction for software products: Implications for design and support service', *Management Science*, vol.41, (9 September 1995), pp.1456–70.

Kemp, D 1996, *The implications of government reform in vocational education and training for private training providers*, Department of Employment, Education, Training and Youth Affairs, Canberra.

Kotler, P & Fox, K 1995, *Strategic marketing for educational institutions*, Prentice-Hall Inc. Englewood Cliffs, New Jersey.

Langworthy, G, Preston, A & Wooden, M 1987, 'The costs of training', Western Australian Labour Market Research Centre report for the Department of Employment and Training, WALMRC, Perth.

Levin, H 1987, *Cost-effectiveness: A primer*, Sage, New York.

Levy, M 1987, *The core skills project and work based learning: An overview of the development of a new model for the design, delivery and accreditation of vocational education and training*, Manpower Services Commission, Sheffield, United Kingdom.

McDonald, R 1995, 'Costing training and assessment—issues paper', Assessment Centre, NSW TAFE Commission, Sydney.

—— —— 1996, *A billion dollar investment—measuring the cost of assessing vocational skills*, Assessment Centre, NSW TAFE Commission, Sydney.

McDowall, N 1997, *Introduction to the hospitality industry in Australia*, RMIT Publishing, Carlton, Victoria.

McKenzie, P 1995, 'Scale economies in Australian secondary schools', *Australian Journal of Education*, vol.39, no.2, pp.109–25.

Miller, J et al. 1993, 'Tradeoffs in student satisfaction: Is the "perfect" course an illusion?' *Journal on Excellence in College Teaching*, vol.4, pp.27–47.

Misko, J 1996, *Work-based training, volume 1: Costs, benefits, incentives and best practice*, NCVER Adelaide.
NCVER (National Centre for Vocational Education Research) 1997, *Australian vocational education and training, TAFE graduate destination survey 1997*, NCVER, Adelaide.
NSW DTEC (Department of Training and Education Coordination) 1997, *Interim funding model for training providers for on-the-job delivery of traineeship training 1997*, NSW DETEC, Sydney.
Oliva, T, Oliver, R, et al. 1995, 'The relationships among customer satisfaction, involvement, and product performance: A catastrophe theory application', *Behavioural Science*, vol.40, (2 April 1995), p.104–32.
Oliver, R 1977, 'Effect of expectation and disconfirmation on post-exposure product evaluations: An alternative interpretation', *Journal of Applied Psychology*, vol.62, no.4, pp.480–6.
Oregon Business Council 1996, *The need for customer driven higher education*, Oregon Business Council, Portland, Oregon, http://www.sosc.osshe.edu/pres/obcfull.htm.
Ostrom, A & Iacobucci, D 1995, 'Consumer trade-offs and the evaluation of services', *Journal of Marketing*, vol.59, (January 1995), pp.17–28.
OTFE (Office of Training and Further Education) 1995, *Best of both worlds: Volume 1. Vocational education and training and higher education*, seminar papers, ed. H Symmonds, Joint Ventures in Education and Training, Melbourne.
—— —— 1996a, *Financial reporting framework 1996*, OTFE, Melbourne.
—— —— 1996b, *Partnerships for training: Collaboration for mutual benefits*, seminar papers, ed. H Symmonds, OTFE, Melbourne.
Page, K 1995, 'Customer satisfaction research. Now you've got it . . . What are you going to do with it?' Market Research Society's 38th Conference, 1995, London.
Pantages, T & Creedon, C 1978, 'Studies of college attrition: 1950–1975', *Review of Educational Research*, vol.48, no.1, pp.49–102.
Parasuraman, A, Zeithaml, V, et al. 1994, 'Re-assessment of expectations as a comparison standard in measuring service quality: Implications for further research', *Journal of Marketing*, vol. 58, (January), pp.111–124.
Pascarella, E 1980, 'Student–faculty informal contact and college outcomes', *Review of Educational Research*, vol.50, no.4, pp.545–96.
—— —— & Terenzini, P 1977, 'Patterns of student–faculty informal interaction beyond the classroom and voluntary freshman attrition', *Journal of Higher Education*, XLVIII, no.5, pp.540–52.
Peacock, R 1997, *Components of student satisfaction at Oberlin College*, Oberlin College, http://peacock.admin.oberlin.edu/www/satisfaction/satisfaction.html.
Sanders, L 1994, 'From retention to satisfaction: New outcomes for assessing the freshman experience', paper presented at the 34th Annual Forum of the Association for Institutional Research, New Orleans, Educational Resources Information Centre, ED376 615.
Seddon, T 1994, 'Reconstruction social democratic education in Australia: Versions of vocationalism', *Journal of Curriculum Studies*, vol.26, no.1, pp.63–82.
Selby Smith, J, Selby Smith & Ferrier, F 1996, *Key policy issues in the implementation of user choice*, Centre for the Economics of Education and Training, working paper no.8, Monash University, Clayton, Vic.
Sheth, J, Newman, B, et al. 1991, *Consumption values and market choices: Theory and applications*, South-Western Publishing, Cincinnati.
Smith A, & Gonzi, A 1996, 'The retail industry' in *Enterprise training in Australia: Report 1— industry profiles and case studi* , OTFE, Melbourne.
Sweet, R 1993, 'Learning in the workplace: A policy perspective', *The Australian TAFE Teacher*, vol.27, no.1, pp.42–50.
—— —— 1995, 'Linking schools and workplaces: Lessons from Australia and overseas', *The Australian TAFE Teacher*, vol.29, no.4.
Tinto, V 1975, 'Dropouts from higher education: A theoretical synthesis of recent research', *Review of Educational Research*, vol.45, no.1, pp.89–125.
Throsby, C 1986, 'Cost functions for Australian universities', *Australian Economic Papers*, vol.25, no.47, 175–92.

Tourism Training Victoria 1996, *1998–2000 industry training plan*, Tourism Training Australia, Melbourne.

Tsang, M 1995, 'Cost analysis in education', in *International Encyclopedia of Economics of Education*, ed. M Carnoy, Pergamon, Cambridge, pp.386–92.

Victorian State Training Board 1991, *Costs/benefits of training through live work*, State Training Board, Melbourne.

Waddell, H 1995, 'Getting a straight answer: CSM scales all ask the wrong question: "How am I doing?"', *Marketing Research*, vol.7, no.3, pp.5–8.

Walters, J 1994, *AB 1725 Accountability: Work in progress, a report*, California Community Colleges, Office of the Chancellor, Sacramento, California, Educational Resources Information Centre, ED366386.

Wince, M & Borden, V 1995, 'When does student satisfaction matter?', 35th Annual Forum of the Association for Institutional Research, Boston, MA, May 28–31, Educational Resources Information Centre, ED386990.

World Travel and Tourism Council 1994, *Gearing up for growth, a study of education and training for careers in Asia–Pacific travel and tourism*, American Express Foundation and World Travel and Tourism Council, Brussels.

Yi, Y 1990, 'A critical review of consumer satisfaction', *Review of Marketing, 1990*, VA Zeithaml, Chicago, American Marketing Association, pp.68–123.

Youngman, C 1996, 'Recruitment combined with retention strategies results in institutional effectiveness and student satisfaction', in *The olympics of leadership: Overcoming obstacles, balancing skills, taking risks*, proceedings of the Annual International Conference of the National Community College Chair Academy, Phoenix, Arizona, Educational Resources Information Centre, ED394587.

Appendices

1 Interview schedules

Cost

- Interview schedule for institute/enterprise senior manager
- Interview schedule and records needed from program manager
- Interview schedule with TAFE teacher or trainer
- Interview schedule for workplace trainer, supervisor, mentor, coach

Satisfaction

- Interview schedule for student/trainee satisfaction

2 Training costs and satisfaction rationale and questionnaire

- Rationale
- Training costs and satisfaction questionnaire

Appendix 1

Interview schedules

Interview schedule for institute/enterprise senior manager

Name/address of organisation .....

Person interviewed .....

Interviewer .....

Date .....

1. Can you provide details for the context of this study on the history of the firm, its products, technological change, industrial agreements relating to training
2. Can you provide the employment total for the firm and for the relevant department—by occupation by qualification
3. What is the turnover of employees per year, e.g. number of hires, fires and quits in relevant department
4. Is there any special government assistance to the development of this course/program e.g. curriculum and assessment packages?
5. What funding if any is provided by government(s) for this course/program?
6. Who receives and administers these funds?
7. What proportion of this funding is allocated to the direct delivery of this course/program?
8. Where does the remainder of the funds go?

Interview schedule and records needed from program manager

Name/address of organisation .....

Person interviewed .....

Interviewer .....

Date .....

Questions about trainees and program

1. What number of trainees started this program in 1997?
2. What are the ages and sex of the trainees?
3. If the trainees are employees what numbers are full time, part time and casual?

4. Are there any payments of wages to the trainees and what rate per hour or per week including costs?
5. Do you have data on the prior level of education or training of each trainee (including VET in school)?
6. What exemptions were given for prior learning?
7. How many trainees dropped out of training by June?
8. What were the main reasons for persons dropping out?
9. If there are electives in the program what are they?
10. Are all modules compulsory?
11. Do you have any measures of the success of the program in 1997?
12. Do some students complete modules in less than the nominal hours?
13. What were the module outcomes for first semester 1997?

Questions 14–19 may be relevant only to TAFE

14. What are the modules and nominal module hours for this program?
15. What is the enrolment in each module?
16. Are all the nominal module hours delivered?
17. What are the number of Australian residents (full time, part time, male and female)?
18. What are the number of full-fee overseas students?
19. Are students from other programs able to take on any of the modules?

Questions about direct delivery: Teachers, trainers, and workplace supervisors/ mentors/coaches

1. Can you supply the work schedule for all direct trainers (teachers and workplace supervisors/mentors/coaches) including any specified time for:
   - module teaching/training
   - assessment
   - mentoring, including workplace visits
   - module co-ordination by trainer or teacher
   - RPL.
2. Can you supply annual or weekly salaries including any allowances and oncosts for teachers, trainers and workplace supervisors/mentors/coaches?
3. Are there other (non-teacher) personnel costs directly attributable to delivery of this program?
4. What are the costs of materials, books, equipment and rental directly attributable to delivery of this program?

Questions about delivery support costs

1. What other costs are attributable to this program?
2. Can these costs be divided among:
   - program co-ordination
   - clerical
   - organising work experience
   - transport
   - program development
   - customisation of modules
   - 'train the trainer'
   - organising and awarding qualifications
   - rental
   - other

Questions about development of the program in earlier years

1. What year did the delivery of the program start?
2. What costs were incurred in the year or years prior to the start of the program?
3. What personnel were involved in setting up the program?
4. What equipment and materials and resources were purchased to set up the program?

Questions about revenues

1. What revenue is received from the State government? What is the rate per trainee or hour?
2. What exemptions from State charges are received?
3. What funds are received from the Commonwealth government?
4. Are any other revenues or in-kind contributions received?
5. Do the trainees make any payment for training? What?

Questions 6–8 may be relevant only to TAFE.

6. What are the total funded hours and total revenue received by the institute for the program in 1997?
7. What government funding is received for the hours of structured work experience?
8. What proportion of each type of revenue received by the institute goes to the department providing the program?

Interview schedule with TAFE teacher or trainer

Name/address of organisation .....

Person interviewed .....

Interviewer .....

Date .....

	Course names		
	1	2	3 .....
1. Can you allocate your normal working week over the following?	Hours per week	Hours per week	Hours per week
• teaching/training			
• assessment			
• mentoring, including workplace visits			
• module co-ordination by trainer or teacher			
• course administration			
• RPL			
• preparation for teaching			
• other, please say			
Total hours (what you do on average per week—it does not have to equal paid hours)			

2. Do you do any work related to your teaching in the non-attendance weeks? ☐

3. If yes, how many hours in total over the non-attendance period? ☐

4. Do you have any other comments? .....

.....

.....

.....

.....

Interview schedule for workplace trainer, supervisor, mentor, coach

Name/address of organisation .....

Person interviewed .....

Interviewer .....

Date .....

1. How many hours of your ordinary working week are devoted to providing training (and not available for your ordinary work)? ..... hours.
2. Do you work longer than normal work hours?

   ☐ No

   ☐ Yes. If yes, how many hours on average per week? ..... hours.

Are any of these additional hours for training? ..... hours.

3. What are the main things you do as a trainer, mentor or coach of trainees?

   ☐ one-to-one instruction

   ☐ group demonstration session, lecture or tutorial or seminar or video

   ☐ mentoring

   ☐ co-ordinating the program including record keeping and reporting

   ☐ assessment of competencies

   ☐ other, please say

   .....

4. Which training activities take the most time?

   .....

   .....

5. Were you trained as a trainer or mentor or coach?

   ☐ No

   ☐ Yes. If yes, name of training course, how many days training and when?

   .....

6. Do trainees waste equipment time, waste materials, or damage equipment more than qualified or experienced workers?

☐ No

☐ Yes. If yes, what is the annual cost? .....

7. Are there more accidents among trainees?

☐ No

☐ Yes. If yes, what is the annual cost? .....

7a. What is the trainee's rate of pay and what is the government subsidy? .....

7b. How does the trainee's work value compare with his pay over the year? .....

8. Has the training increased the trainees' productivity?

☐ No

☐ Yes. If yes, by what percentage at June? 5% 10% 20% 30% or more?

9. Do you have any indicators of success of the course so far this year?

☐ No

☐ Yes. If yes, what are they? .....

.....

10. What personal costs have you incurred in your training role?

.....

10a. Are there any other costs we haven't considered? .....

11. What personal benefits have you gained with your training role? .....

☐ Certificates? If yes, which ones?

.....

☐ Increased pay

☐ Other? Please specify

.....

.....

12. Do you have any other comments?

.....

.....

13. Can you give us an approximate figure for the trainers/mentors annual pay plus oncosts? .....

.....

Interview schedule for student/trainee satisfaction

The interviews were guided by a set of broad topic areas. The order in which these were covered were not always the same but broadly followed this sequence:

- Explanation given to the interviewee of how the data were to be collected, stored and used.
- Work and educational history of the interviewee.
- Discussion of the training the interviewee was doing focussing on structure and content.
- Reaction of the interviewee to the training focussing on likes and dislikes.
- Discussion of likely career and personal outcomes of the training.
- Global assessment of the interviewee's satisfaction with training.
- Discussion of aspects of training which were, or were not especially satisfying.
- Other comments the interviewee wanted to make.

Appendix 2

Training costs and satisfaction rationale and questionnaire

Rationale

Questions were designed to elicit both qualitative and quantitative data about student satisfaction.

Background antecedent influences on choice and satisfaction which might contribute to identifying particular market segments include descriptors on gender (Q1), age (Q2), educational background (Q3, 4 and 7) and employment background (Q5 and 6). Additional information on employer and TAFE institute will be added to these variables from other components of the data capture instruments used in this research study and from institutional and course characteristic information available through AVETMISS and other agency sources.

Antecedent dispositions regarding commitment, expectations, values and choice are covered by questions seeking reasons for doing the course (Q8), for selecting the institution or workplace of course delivery (Q9) and for preferring the enrolled course over others (Q10 and 11).

Questions 12 to 33 have been designed to proxy the multi-dimensional construct of satisfaction through a static snapshot approach. Using a ten point scale these questions ask students to rate aspects of their course using dimensions of perceived importance, need, quality, helpfulness and satisfaction. Antecedent personal goal expectations are explored in question 12. Reflective questions on student experiences (i.e. transactions) with key course components are covered by questions 13 to 33. These questions cover specific areas such as satisfaction with course information, instructors knowledge, training materials, physical environment, course administration and organisation, careers and job advice, extent of subject/module choice, the mix of instruction and practice, course location, class times and length of training. Within this range of questions students are also asked to rate their overall reactions to course quality, course costs, overall satisfaction and overall meeting of expectations. Question 18 seeks student perceptions about course relevance to future employment; question 28 seeks student perception on how employers might view the course.

Open ended questions (Q29 and 30) are used to identify the perceived best and worst aspects of the course. These questions are designed to confirm or extend information gathered about course elements probed in items 12 to 33.

Questions 31 to 33 probe elements of disconfirmation theory by seeking student responses to how the cumulative experience of the course up to now meet their overall expectations, goals and needs.

A post-transaction indicator of satisfaction, the recommendation of course to others is probed in question 34. Questions 37 and 38 probe post-transaction satisfaction by asking the student whether they would undertake the same course at the same institution tomorrow given the information and experiences they have now.

Links with the educational research literature on dissatisfaction with course experiences and withdrawal or dropout are explored in questions 35 and 36.

Questions 39 to 52 serve both the cost and satisfaction components of this study by seeking more detailed information about student income and costs.

A series of questions about whether students made formal complaints on the worst or unsatisfying aspects of the course and how institutions were perceived to handle complaints was initially included but later dropped to limit the length of the questionnaire. The intention to include these questions came from the literature which suggests that in market driven systems the response to customer complaint is an influence on satisfaction outcomes of ongoing loyalty or disassociation. The response to complaint is a key measure of quality improvement in many service industries.

Training Costs and Satisfaction Questionnaire

Who is doing the research?

Holmesglen Institute of TAFE, the Centre for the Economics of Education at Monash University and the Australian Council for Educational Research (ACER), have formed a group to carry out research for the Australian National Training Authority.

Who is being asked to complete the questionnaire?

A small number of students enrolled at TAFE institutes and other people being trained as part of their employment.

Why is the research being done?

To find out about the levels of satisfaction with, and the cost of training, provided either by a TAFE institute or a workplace.

How will the findings of the research be used?

To guide the development of policies on how best to deliver training.

What feedback will students who complete the questionnaire get?

A summary of findings will be made available.

What do you need to know?

- This survey is **not** a test. There are no right or wrong answers. The results of this survey will not be used in any way to assess your performance.
- All your answers will be treated confidentially.
- All questionnaires and data taken from them will be held at ACER.
- No individuals will be identified or identifiable in any published reports.
- Your participation in this survey is voluntary. You may refuse to answer any or all of the questions. If you choose not to participate just return the blank questionnaire.
- The questionnaire is divided into three parts:
  - About you
  - About your training program
  - About the costs

To complete the questionnaire, just tick the appropriate box(es) or circle/write the answer in the space provided.

About you

Q 1 **What is your gender?** ☐ Female ☐ Male

Q 2 **How old are you?** ☐ Years

Q 3 **What was your highest level of education before you started this training program?**

Tick one box only.

- ☐ Left school before Year 12
- ☐ Left school during Year 12
- ☐ Completed Year 12
- ☐ Started but did not complete a TAFE or university course
- ☐ Completed a TAFE or university course

Q 4 **What was your main employment or educational activity in the six months *before* you commenced your current training?**

*Tick the **one** box which best tells how you spent your time.*

- ☐ Employed full-time, not studying
- ☐ Employed part-time, not studying
- ☐ Employed part-time and studying (full or part-time)
- ☐ Employed full-time and studying (full or part-time)
- ☐ Studying full-time only *(If you ticked here, go to Q 6)*
- ☐ Studying part-time only *(If you ticked here, go to Q 6)*
- ☐ Not employed, not studying, but seeking work *(If you ticked here, go to Q 6)*
- ☐ Home duties only *(If you ticked here, go to Q 6)*
- ☐ Other *(please specify)* _____

Q 5 **If you were employed (either part-time or full-time) in the six months before you started your current training, what type of work were you doing?**

_____

Q 6 **If you are currently in paid employment, what type of work are you doing?** *(If you are not employed, just write here 'Not Working'.)*

_____

About your training program

Q 7 **Are you doing your training now full-time or part-time?**

☐ Full-time ☐ Part-time

Q 8 **What is the most important reason for doing this training program?**

Tick one box only.

☐ Get a job
☐ Get a better job
☐ Get a trade or other qualification
☐ Get a promotion
☐ Get more skills for my present job
☐ A requirement my job
☐ Seeking a career shift
☐ To gain entry to another course or institution
☐ Parents or friends advice
☐ Only course you could get into at the time
☐ To set up my own business
☐ It sounded interesting and appealed to me
☐ Did not get into the course of my first choice
☐ My friends were doing this or similar courses
☐ Other (please specify) _____

Q 9 **Why are you doing this training program at this particular institution or workplace (and not somewhere else)?**

_____

Q 10 **Were there any special features of your training program which attracted you to it, compared with similar courses or programs?**

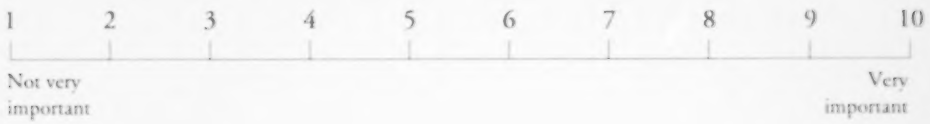
☐ Yes ☐ No (Go to Q 12) ☐ Not applicable (Go to Q 12)

Q 11 **If there were special features of your current training program which attracted you to it, what were they?**

_____

Before you started your training program

Q 12 Think back to just before you commenced your current training program.
How important did this program seem to you in helping you reach your goals?



About your training program now

Q 13 **Overall, how satisfied are you with your training program now?**

Q 14 **Overall, how satisfied are you with *your teacher(s) or trainer(s) knowledge* during your training?**

Q 15 **Overall, how satisfied are you with the *presentation* of training materials?**

Q 16 **How satisfied are you with the *physical environment* of your training?**

Q 17 **How satisfied are you with the *way your training program is organised?***

Q 18 How satisfied are you with the usefulness of your training program for improving your job prospects?

1 2 3 4 5 6 7 8 9 10

Not at all satisfied — Very satisfied

Q 19 Did you have a choice of modules or units in your training program?

☐ Yes ☐ No (If 'no', go to Q 21)

Q 20 Overall, how satisfied are you with the amount of choice you have had in selecting different modules or units?

1 2 3 4 5 6 7 8 9 10

Not at all satisfied — Very satisfied

Q 21 Overall, how satisfied are you with the balance between instruction and practical application in your training program?

1 2 3 4 5 6 7 8 9 10

Not at all satisfied — Very satisfied

Q 22 If you attend classes for your training program, how satisfied are you with the location of these classes?

1 2 3 4 5 6 7 8 9 10

Not at all satisfied — Very satisfied

Do not attend classes ☐

Q 23 Overall, how satisfied are you with the class times of this course?

1 2 3 4 5 6 7 8 9 10

Not at all satisfied — Very satisfied

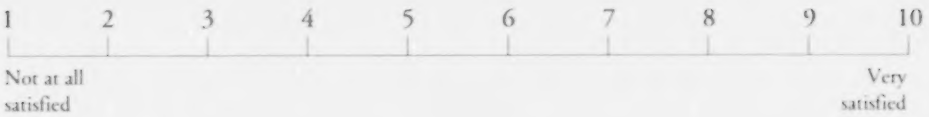
Do not attend classes ☐

Q 24 Overall, how satisfied are you with the quality of your training program?

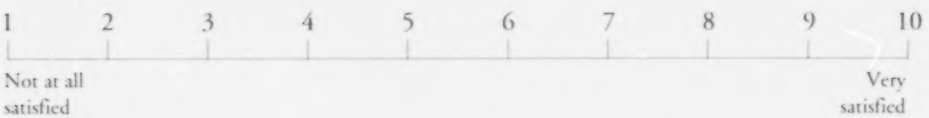
1 2 3 4 5 6 7 8 9 10

Not at all satisfied — Very satisfied

Q 25 **Overall, how satisfied are you with the length of the training program?**

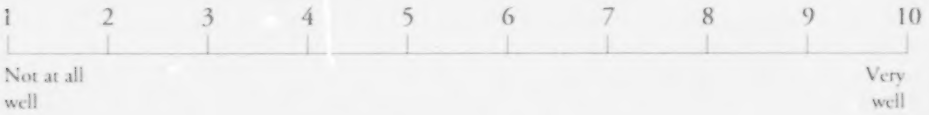


Q 26 **Overall, how satisfied are you with the dollar cost (to you) of the training program?**

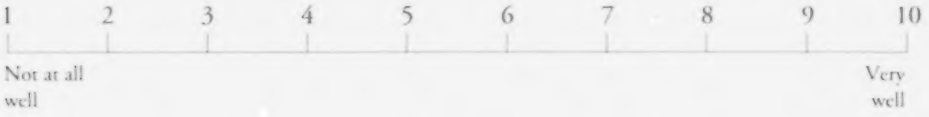


Not applicable ☐

Q 27 **Overall, how well has this training program met your expectations?**



Q 28 **Overall, how well do you think the training program is regarded by employers?**



Don't know ☐

Q 29 **What do you like most about your training program?**

1 _____

2 _____

3 _____

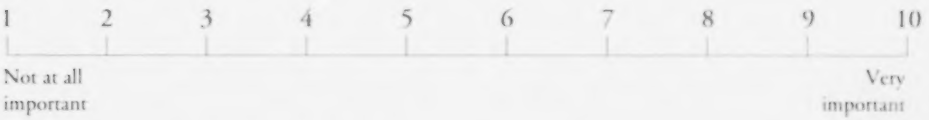
Q 30 **What do you dislike most about your training program?**

1 _____

2 _____

3 _____

Q 31 **How important now is the training program for meeting your goals?**



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Q 32 **Has the quality of the training program lived up to your expectations?**

1	2	3	4	5
☐	☐	☐	☐	☐
A long way below	A bit below	About what I expected	A bit above	A long way above

Q 33 **How well has your training program met your specific needs?**

1 2 3 4 5 6 7 8 9 10 Don't know

Not at all well — Very well ☐

Q 34 **Would you recommend this training program to others?**

☐ Yes ☐ No. If 'no', why? _____

Q 35 **Since enrolment have you considered either withdrawing from the training program or transferring to another one?**

☐ Yes ☐ No (If 'no', go to Q 37)

Q 36 **Why have you considered transferring or withdrawing from the course?**

_____

_____

_____

Q 37 **If you had your time over again, would you still enrol in this training program?**

☐ Yes ☐ No. If 'no', why? _____

Q 38 **If you had your time over again, would you still enrol in this training program *at the same place*?**

☐ Yes ☐ No. If 'no', why? _____

☐ Not applicable

About the costs

Q 39 Do you have a job related to your course of training?

☐ Yes ☐ No (If 'no', go to Q 41)

Q 40 Has the training this year increased your productivity?

☐ Yes. (If 'yes', please tick the relevant percentage)

- ☐ 5%
- ☐ 10%
- ☐ 20%
- ☐ 30% or more

☐ No

☐ Don't know

Q 41 Do you expect to earn more money as a result of completing this course?

- •••Yes. If 'yes', can you say why? _____
- •••No
- •••Not applicable

Q 42 Do you think the course will help with employment in the future?
Tick as many boxes as appropriate.

- •••Yes, more job security
- •••Yes, better pay
- •••Yes, more interesting work
- •••Yes, other (please specify) _____
- •••No

Questions 43 & 44 are for Esprit and Autoglazing trainees only

Q 43 How many hours do you work in an average week? ☐ Hours

Q 44 Do you spend time on training during working hours?

☐ Yes. If 'yes', how many hours in an average week? ☐ Hours

☐ No

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Q 45 Do you spend time on training outside paid working hours?

- ☐ Yes. If 'yes', how many hours in an average week? ☐ Hours
- ☐ No

Questions 46–52 are for TAFE students only

Q 46 Has your training assisted you in finding a job or jobs?

- ☐ If 'yes', in what way? _____
- ☐ No
- ☐ Not applicable

Q 47 Do you pay fees for your course of training?

- ☐ Yes. If 'yes', how much per year? $ ☐
- ☐ No

Q 48 Do you pay for materials?

- ☐ Yes. If 'yes', how much per year? $ ☐
- ☐ No
- ☐ Not applicable

Q 49 Do you pay for uniforms or equipment or textbooks?

- ☐ Yes. If 'yes', what for? _____
  How much per year? $ ☐
- ☐ No
- ☐ Not applicable

Q 50 Do you pay for anything else related to the course?

- ☐ Yes. If 'yes', what for? _____
  How much per year? $ ☐
- ☐ No
- ☐ Not applicable

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Q 51 Do you receive AUSTUDY or any other government grant?

- ☐ Yes. If 'yes', how much per year? $ ☐
- ☐ No
- ☐ Not applicable

Q 52 Are you exempt from any fees or charges?

- ☐ Yes. If 'yes', which ones? _____

  How much per year? $ ☐
- ☐ No
- ☐ Not applicable

Thank you for completing this questionnaire.

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The National Centre for Vocational Education Research is Australia's primary research and development organisation in the field of vocational education and training.

NCVER undertakes and manages research programs and monitors the performance of Australia's training system.

NCVER provides a range of information aimed at improving the quality of training at all levels.

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